

List of All Chemicals

P Thymus vulgaris (Lamiaceae)

Common name(s)

Garden Thyme; Common Thyme; Thyme

How used

Food

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Plant Part	Low PPM	High PPM	StdDev	*Reference
1,8-CINEOL	Essential Oil	--	32900.0	-0.75	*
2,6,6-TRIMETHYL-BICYCLO(3,1,1)-HEPTA-2-ENE	Essential Oil	--	--		*
3,3',4,4'-TETRAHYDROXY-5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL	Leaf	--	35.0		*
3,3',4,4'-TETRAONE-5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL	Leaf	--	3.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3,4,4'-TRIHYDROXY-5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL	Leaf	--	1.0		*
4'-HYDROXY-5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL-3,4-DIONE	Leaf	--	9.0		*
4'5-DIHYDROXY-3',6,7-TRIMETHOXYFLAVONE	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Activities (3)					
Antirhinoviral					
Antiviral					
Pesticide					
4'5-DIHYDROXY-6,7,8-TRIMETHOXYFLAVONE	Leaf	--	5.5		*
4'5-DIHYDROXY-7-METHOXYFLAVONE	Leaf	--	43.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
4,4'-DIHYDROXY-5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL-3,6-DIONE	Leaf	--	--		*
4-BETA-D-GLUCOSIDE-HYDROXYBENZOIC-ACID	Leaf	--	--		*
4-HYDROXYBENZOYL-GLUCOSE	Leaf	--	--		*
4-O-BETA-D-GLUCOSIDE-PROTOCATECHUIC-ACID	Leaf	--	--		*
4-TERPINEOL	Plant	73.0	8320.0	1.0	*
Activities (8)					
Antiasthmatic					
Antioxidant					
Antiradicular					
Diuretic	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.				
Favor FEMA 20-100	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Insectifuge	Bowers, W.S., Ortego, F., You, X., and Evans, P.H. Insect Repellents From The Chinese Prickly Ash <i>Zanthoxylum bungeanum</i> . <i>Journal of Natural Products</i> , 56(6): 935-938, 1993.				
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Pesticide					
5,4'-DIHYDROXY-6,7,8,3'-TETRAMETHOXYFLAVONE	Plant	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)

Activities (2)

Fungistat Weidenborner, M., Hindorf, H., Jha, H.C., and Tsotsonos, P. 1989. Antifungal Activity of Flavonoids Against Storage Fungi of the Genus *Aspergillus*. *Phytochemistry*, 29(4): 1103-1105.

Pesticide

5,5'-DI-ISO-PROPYL-2,2'-DIMETHYL-BIPHENYL-3,3',4,4'-TETRAONE	Leaf	--	3.0	*
5-HYDROXY-4',7-DIMETHOXYFLAVONE	Leaf	--	1.0	*
6-HYDROXY-LUTEIN	Plant	--	--	Chemical Constituents of Oriental Herbs (3 diff. books)
6-HYDROXY-LUTEOLIN	Leaf	--	--	*

Activities (2)

Aldose-Reductase-Inhibitor IC53=1 uM Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. *Phytochemistry*, 23: 1885-1888.

Aldose-Reductase-Inhibitor IC87=10 uM Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. *Phytochemistry*, 23: 1885-1888.

8-DEMETHYL-THYMONIN	Plant	--	--	*
8-METHOXY-CIRSILINEOL	Leaf	--	7.4	*

Activities (2)

Aldose-Reductase-Inhibitor 10 uM Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids. *Biochem Pharmacol*, 31(23): 3807-3822.

Antispasmodic

ALANINE	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
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Activities (3)

Antioxidant Larson, R.A. 1987. Review Article Number 30. The Antioxidants of Higher Plants. *Phytochemistry*, 27: 969-978.

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Oxidant Larson, R.A. 1987. Review Article Number 30. The Antioxidants of Higher Plants. *Phytochemistry*, 27: 969-978.

ALPHA-HYDROXY-LINOLENIC-ACID	Seed	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
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ALPHA-LINOLENIC-ACID	Plant	6900.0	7452.0	0.18	USDA's Ag Handbook 8 and sequelae)
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Activities (15)

5-Alpha-Reductase-Inhibitor

Antiaggregant Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Antihypertensive

Antiinflammatory IC50=42 uM Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Antileukotriene-D4 IC50=42 uM

Antimennorrheic Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

Antimetastatic Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Antiprostatic Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Hypotensive Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Immunostimulant 0.12 ml/man/day Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Lymphocytogenic 0.5 ug/ml Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.

Propecic

Prostaglandin-Synthesis-Inhibitor 39.5 g/day/hmn Ferretti, A., Flanagan, V. P. 1996. Antithromboxane Activity of Dietary Alpha-linolenic Acid: A Pilot Study. Prostaglandins Leukotrienes Essential Fatty Acids, 54(6): 451-455. ARS, USDA.

Vasodilator

ALPHA-PHELLANDRENE	Plant	50.0	425.0	1.79	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
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Activities (11)

Antibacterial Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.

Antistaphylococcic Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.

Dermal Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Emetic

Flavor FEMA 10-130 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	

ALPHA-PHELLANDRENE	Essential Oil	--	12500.0	-0.35	*
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Activities (11)

Antibacterial	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.
Antistaphylococcic	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.
Dermal	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Emetic	
FLavor FEMA 10-130	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Insectiphile	Pakistan Encyclopedia Planta Medica. 1986.
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	

ALPHA-PINENE	Plant	15.0	1598.0	0.65	*
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Activities (28)

Allelochemic	
Allergenic	
Antiacne	
Antibacterial	
Antifeedant	
Antiflu	Economic & Medicinal Plant Research, 5: 195.
Antiinflammatory 500 mg/kg	
Antipneumonic	
Antiseptic	
Antispasmodic	
Antistaphylococcic	
Antiviral	Economic & Medicinal Plant Research, 5: 195.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Coleoptophile	
Expectorant	Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.
FLavor FEMA 15-150	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Herbicide IC50=30 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insecticide 0.82 uM/fly	
Insectifuge 50 ppm	
Insectiphile	J. Stored. Prod. Res., 22:141, 1986.
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
P450-2B1-Inhibitor IC50=0.087 uM	
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Sedative	Lawrence Review of Natural Products, Jun-90.
Spasmogenic	
Tranquilizer	Lawrence Review of Natural Products, Jun-90.
Transdermal	

ALPHA-PINENE	Essential Oil	--	8000.0	-0.49	*
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Activities (28)

Allelochemic	
Allergenic	
Antiacne	
Antibacterial	
Antifeedant	
Antiflu	Economic & Medicinal Plant Research, 5: 195.
Antiinflammatory 500 mg/kg	
Antipneumonic	

Antispasmodic	
Antistaphylococcic	
Antiviral	Economic & Medicinal Plant Research, 5: 195.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Coleophophile	
Expectorant	Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.
FLavor FEMA 15-150	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Herbicide IC50=30 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insecticide 0.82 uM/fly	
Insectifuge 50 ppm	
Insectiphile	J. Stored. Prod. Res., 22:141, 1986.
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
P450-2B1-Inhibitor IC50=0.087 uM	
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Sedative	Lawrence Review of Natural Products, Jun-90.
Spasmogenic	
Tranquilizer	Lawrence Review of Natural Products, Jun-90.
Transdermal	

ALPHA-TERPINENE

Essential Oil -- -- *

Activities (13)

ACE-Inhibitor 100 ug/ml (weak activity)	
Acaricide	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.
Antiacylcholinesterase IC50=1.0 mM	
Antinitrosaminic	
Antispasmodic	
FLavor FEMA 1-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insecticide 0.86 uM/fly	
Insectifuge	
P450-2B1-Inhibitor IC50=0.76 uM	
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Spasmogenic	

ALPHA-TERPINENE

Plant -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities (13)

ACE-Inhibitor 100 ug/ml (weak activity)	
Acaricide	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.
Antiacylcholinesterase IC50=1.0 mM	
Antinitrosaminic	
Antispasmodic	
FLavor FEMA 1-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insecticide 0.86 uM/fly	
Insectifuge	
P450-2B1-Inhibitor IC50=0.76 uM	
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Spasmogenic	

ALPHA-TERPINEOL

Plant 36.0 6500.0 4.55 *

Activities (23)

ACE-Inhibitor 100 ug/ml (weak activity)	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.

Antiacne	
Antibacterial MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Anticancer	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.
Anticariogenic MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antiinflammatory	
Antiproliferant	
Antiseptic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cicatrizant ED50=240 ug/g mus	
FLavor FEMA 5-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insecticide 1.29 uM/fly	
Interleukin-6- Inhibitor	
Mosquitofuge > Deet	
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Pesticide	
Sedative	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Termiticide IC100=5 mg/g	
Transdermal	
Vulnerary ED50=240 ug/g mus	

ALPHA-TERPINEOL

Essential Oil -- -- *

Activities (23)

ACE-Inhibitor 100 ug/ml (weak activity)	
Aldose-Reductase- Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpene from Trees. <i>Toyama-Ken Yakuji Kenkyusho Nenpo</i> , (20): 95-101.
Allelopathic	Wright,C.W.(Ed)2002. <i>Medicinal&Aromatic Plants-Industrial Profiles</i> .Artemisia.344pp.Maffei,M.(Ed)2002. <i>Vetiveria</i> .The Genus <i>Vetiveria</i> .Taylor&Francis.NY,NY.1999pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus <i>Melaleuca</i> .Harwood Acad.Pub.Amsterdam,Netherlands.
Antiacne	
Antibacterial MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Anticancer	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.
Anticariogenic MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antiinflammatory	
Antiproliferant	
Antiseptic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cicatrizant ED50=240 ug/g mus	
FLavor FEMA 5-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insecticide 1.29 uM/fly	
Interleukin-6- Inhibitor	
Mosquitofuge > Deet	
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Pesticide	
Sedative	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Termiticide IC100=5 mg/g	
Transdermal	
Vulnerary ED50=240 ug/g mus	

ALUMINUM	Leaf	155.0	920.0	0.21	*
Activities (5)					
Antisilicotic	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.				
Antivaginitic	Martindale's 28th				
Candidicide	Martindale's 28th				
Encephalopathic	Martindale's 29th				
Pesticide					
AMYL-ALCOHOL	Essential Oil	--	13900.0	--	*
Activities (1)					
FLavor FEMA 35-3,500 ppm	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
ANETHOLE	Essential Oil	--	--	--	*
Activities (36)					
Allergenic					
AntiINF-kB					
AntiTNF					
Antibacterial MBC=200 ug/ml					
Antigenotoxic 40-400 mg/kg orl mus					
Antihepatotic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antiinflammatory					
Antioxidant					
Antiradicular					
Antisalmonella MIC=200 ug/ml					
Antiseptic 200 ug/ml					
Antispasmodic					
Antitumor					
Antiyeast					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Candidicide					
Carminative	Merck 11th Edition				
Dermatitogenic					
Digestive	Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.				
Estrogenic	Australian J. Med Herbalism, 7: 29.				
Expectorant	Martindale's 29th				
Fungicide	Wolf, R.B. Effects Of p-Methoxycinnamaldehyde From Star Anise And Related Cinnamic Acid Derivatives On Velvetleaf Germination. Journal of Natural Products, 49(1): 156-158, 1986.				
Gastrostimulant					
Hepatotoxic 695 mg/kg orl mus/days	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
Immunostimulant	Economic & Medicinal Plant Research, 1: 124.				
Insecticide	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Irritant	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.				
Lactagogue					
Leucocytogenic	Economic & Medicinal Plant Research, 1: 124.				
Mutagenic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Nephroprotective	Toxicol Appl. Pharmacol. 1996.				
Pesticide					
Secretogogue	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Secretolytic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Sweetener 13 x sucrose					
Sympathomimetic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
APIGENIN	Plant	--	--	--	*
Activities (101)					
11B-HSD-Inhibitor					
AntiADD					
AntiHIV IC72=200 ug/ml					
AntiHIV IC50=143 ug/ml					
Antiaflatoxin IC50=9.52 uM					
Antiaflatoxin IC50=2.57					

Antiaggregant	
Antiaging	
Antiallergic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiangiogenic 4 uM	
Antiarrhythmic	
Antibacterial	Recio, M. C., Rios, J. L., and Villar, A. A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, <i>Phytotherapy Research</i> , 3(4), 1989, 117-125.
Anticancer (Lung)	
Anticomplementary	
Antidermatitic	Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals</i> . CRC Press. Boca Raton, FL. 566 pp.
Antiestrogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiherpetic 20-54 ug/ml	
Antihistaminic IC50=10-35 uM	
Antiinflammatory #NAME?	
Antiinflammatory IC~65=1,000 uM	
Antileukemic 20-50 uM	
Antimelanomic 1-50 uM	
Antimetastatic 1-50 uM	
Antimutagenic ID50=10-40 nM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507. ACS, Washington 402 pp.
Antimutagenic ID50=0.55 ug/ml	
Antioxidant 1.5 x Vit. E	
Antioxidant IC28.5=62.5 ug/ml	
Antiperistaltic	
Antiproliferant 1-50 uM	
Antiproliferant IC50=155 uM	
Antispasmodic EC50=1-5 uM	
Antistress 10 mg/kg	
Antithyroid	Jim Duke's personal files.
Antitumor 1-50 uM	
Antitumor (Breast) 1-50 uM	
Antitumor (Lung)	
Antitumor (Skin)	
Antiviral 20-54 ug/ml	
Anxiolytic 10 mg/kg	
Apoptotic 12-60 uM	
Aromatase-Inhibitor IC65=1 uM/	Journal of Medicinal Food 2: 235.1999.
Beta-Glucuronidase-Inhibitor IC50=~40 uM	
CNS-Depressant	
COX-1-Inhibitor IC65=1,000 uM	
COX-2-Inhibitor IC>65=1,000 uM	
COX-2-Inhibitor <40 uM	
COX-2-Inhibitor IC50=<15 uM	
Calcium-Antagonist?	Biochimica & Biophysica Acta, 1115: 69, 1991.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic	
Cyclooxygenase-Inhibitor	
Cytochrome-P450-1A1-Inhibitor	
Cytotoxic IC88=10 ug/ml	Planta Medica, 57: A113, 1991.
Cytotoxic 1-50 uM	
Cytotoxic IC50=9.5 uM	
DNA-Protective	
Deiodinase-Inhibitor	Jim Duke's personal files.
Differentiator MIC=30 uM	
Differentiator IC40=40 uM	
Diuretic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Estrogenic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
Estrogenic 16% genistein	
Estrogenic EC50=1 uM	
HIF-1alpha-Inhibitor	

IC50+=50-250 uM	
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
ICAM-1-Inhibitor	
IKK-Inhibitor	
Inotropic	
Interleukin-6-Inhibitor	
MAO-Inhibitor	
MAPK-Inhibitor	
Musculotropic	Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Mutagenic	
Myorelaxant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
NADH-Oxidase-Inhibitor	
NF-kB-Inhibitor	
NO-Synthase-Inhibitor 5-50 uM	
Nodulation-Signal	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Ornithine-Decarboxylase-Inhibitor	
P21-Inducer 10-70 uM	
PKC-Inhibitor IC50=10 uM	
PTK-Inhibitor 10-100 uM	
Pesticide	
Polyamine-Synthesis-Inhibitor	
Progesterone	
Protein-Kinase-C-Inhibitor IC50=10-40 uM	
Quinone-Reductase-Inducer 20 uM	Uda, Y., Price, K. R., Williamson, G., Rhodes, M. J. C. 1997. Induction of the Anticarcinogenic Marker Enzyme, Quinone Reductase, in Murine Hepatoma Cells In Vitro by Flavonoids. <i>Cancer Lett.</i> , 120 (2): 213-216.
Radioprotective	
Sedative 30-100 mg/kg	
Sunscreen	
TNF-alpha-Inhibitor IC50=3.27 uM	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. <i>Toxicol Ind Health</i> , 14: 223-237.
Topoisomerase-II-Inhibitor 50 ug/ml	Azuma, Y., Onishi, Y., Sato, Y., Kizaki, H. 1995. Effects of Protein Tyrosine Kinase Inhibitors With Different Modes of Action on Topoisomerase Activity and Death of IL-2-Dependent CTLL-2-Cells. <i>J Biochemistry</i> , 118: 312-318.
Topoisomerase-II-Inhibitor IC28=18 uM	
Topoisomerase-II-Inhibitor IC45=180 uM	
Uterotrophic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
VEGF-Inhibitor IC50=2-7 uM	
Vasodilator	
Xanthine-Oxidase-Inhibitor 0.36 uM	
iNOS-Inhibitor IC50=<15 uM	

ASCORBIC-ACID	Leaf	--	--	-0.44	*
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Activities (112)

Acidulant FEMA 6,000	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry
Aldose-Reductase-Inhibitor	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reverse insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Analgesic 5-10 g/day	
Angiotensin-Receptor-Blocker	
AntiAGE 2,000 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reverse insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
AntiCFS 500-1,000 mg	
AntiCTS 1,000 mg 3x/day	
AntiCrohn's 50-100 mg/day/orl/man	Martindale's 29th
AntiLyme 500-2,000 mg	
AntiRaynaud's 500 mg 1-2x/day	
Antiaggregant	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reverse insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antiaging 400 mg/day	
Antiallergic	
Antialzheimeran 2,000-6,000 mg/day	

Antiasthmatic 1,000 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antithrombotic	
Antibacterial	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Anticataract 350 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Anticataract 400 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Anticataract 1 g 3x/day	
Anticervicaldysplastic 1,000-2,000 mg/day	
Anticlimacteric 500-5,000 mg/day	
Anticold 1-2 g/man/day	
Antidecubitic 500 mg/man/2x/day	Martindale's 28th
Antidementia	
Antidepressant 2,000 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antidiabetic	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antidote (Aluminum)	Economic & Medicinal Plant Research, 6: 189.
Antidote (Cadmium)	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antidote (Lead)	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antidote (Paraquat)	Martindale's 28th
Antieczemic 3.5-5 g/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiedemic 1 g/man/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiencephalitic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antienzyme 2,000 mg/day	
Antifatigue 500-1,000 mg	
Antifibrotic 1,000-2,000 mg	
Antigallstone 1,000-3,000 mg/day	
Antigastritic	
Antigingivitic	
Antiglauconic 2 g/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antihangover 1,000 mg	
Antihemorrhagic 1 g/man/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antihepatitic 2-6 g/man/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antihepatotoxic	Economic & Medicinal Plant Research, 6: 189.
Antiherpetic 1-5 g/day	
Antihistaminic 2 g/day orl man	
Antihypertensive	
Antiinfertility 1 g/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiinflammatory	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antilepric 1.5 g/man/day	Martindale's 28th
Antilithic 1,000-3,000 mg/day	
Antimaculitic	
Antimeasles	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antimenopausal 500-5,000 mg/day	
Antimigraine	Martindale's 29th
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antineuramidase	
Antinitrosic 1 g/man/day	Martindale's 28th
Antiobesity 1 g 3x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiorchitic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiosteoarthritic 1 g 2x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiosteoporotic 500 mg/day	
Antioxidant 100 ppm	
Antiparkinsonian 1 g 2-3x/day	
Antiparotitic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiperiodontic 1 g 2x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antipneumonic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antipodriac	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antipoliomyelic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antipyretic	Economic & Medicinal Plant Research, 6: 189.
Antiradicular	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antiretinotic	
Antirheumatic	
Antirhinitic 1,000 mg 3x/day	
Antiscorbutic 10 mg/man/day	Martindale's 28th

Antiseptic 4-8 g/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antishingles	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antispasmodic 500-5,000 mg/day	
Antistress 500-1,000 mg	
Antisyndrome-X 1-4 g/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antitumor (Gastric)	
Antitumor (Lung)	
Antiulcer	
Antiviral 1-5 g/day	
Apoptotic 1-10 mM	
Asthma-preventive 1,000 mg/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Beta-Adrenergic Receptor Blocker	
Beta-Glucuronidase-Inhibitor 1.5 g/day/man	
Calcium-Antagonist	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Cold-preventive 1-2 g/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Collagenic	
Detoxicant	
Diuretic 700 mg/man/orl	
Fistula-Preventive	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Hypocholesterolemic 300-1,000 mg/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Hypoglycemic	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Hypotensive 1,000 mg/man/day	
Immunomodulator	
Immunostimulant	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Interferonogenic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Lithogenic	
Mucolytic 1 g/woman/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Pesticide	Martindale's 28th
Uricosuric 4 g/man/day	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Urinary-Acidulant	Martindale's 29th
Vasodilator	
Vulnerary	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).

ASH	Plant	113681.0	130809.0	0.18	USDA's Ag Handbook 8 and sequelae)
ASH	Leaf	21504.0	128000.0	0.16	*
BETA-CADINENE	Essential Oil	--	--		*
BETA-CAROTENE	Plant	24.0	25.0	-0.59	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities (53)

Allergenic	
Androgenic?	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
AntiPMS	
Antiacne	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiaging	
Antiarthritic	
Antiasthmatic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticancer	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.
Anticarcinomic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticervicaldysplastic	
Anticoronal 50 mg/man/2 days	
Antihyperkeratotic	
Antiichthythic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antileukoplakic	
Antilipoperoxidant IC71=50 ug/ml	
Antilupus 150 mg/man/day/2 mos	Martindale's 28th
Antimaculitic	
Antimastitic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).

Antioxidant	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiozoenic	
Antipapillomic	
Antiphoto phobic 30-300 mg/man/day	Martindale's 29th
Antipityriasic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiporphyrinic 30-300 mg/man/day	Martindale's 28th
Antiproliferant	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.
Antipsoriac	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiradicular	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antirheumatic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antistress	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antitumor	Simon, P.W. Carrots and Other Horticultural Crops as a Source of Provitamin A Carotenes. HortScience, 25(12): 1495, 1990.
Antitumor (Breast) IC45=60 ug/ml	
Antitumor (CNS) IC43=45 ug/ml	
Antitumor (Colon) IC43=45 ug/ml	
Antitumor (Lung) IC30=60 ug/ml	
Antitumor (Prostate)	
Antitumor (Stomach) IC26=45 ug/ml	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiulcer 12 mg 3x/day/man/orl	
Antiulcer 15,000-25,000 IU/day	
Antixerophthalmic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
COX-1-Inhibitor IC78=50 ug/ml	
COX-2-Inhibitor IC82=50 ug/ml	
Cancer-Preventive 22 ppm	Jim Duke's personal files.
Chemopreventive	
Colorant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Gastroprotective	
Immunostimulant 180 mg/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Interferon-Synergist	
Mucogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Phagocytotic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Prooxidant 20 ug/g	
Thymoprotective	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Ubiquiot	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

BETA-CAROTENE Leaf 4.0 25.0 -1.03 *

Activities (53)

Allergenic	
Androgenic?	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
AntiPMS	
Anti acne	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiaging	
Antiarthritic	
Anti asthmatic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticancer	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.
Anticarcinomic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticervical dysplastic	
Anticorony 50 mg/man/2 days	
Antihyperkeratotic	
Antiichthyotic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antileukoplakic	
Antilipoperoxidant IC71=50 ug/ml	
Antilupus 150 mg/man/day/2 mos	Martindale's 28th
Antimaculitic	
Antimastitic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antioxidant	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiozoenic	
Antipapillomic	
Antiphoto phobic 30-300 mg/man/day	Martindale's 29th
Antipityriasic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiporphyrinic 30-300 mg/man/day	Martindale's 28th

Antipsoriac	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiradicular	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antirheumatic	
Antistress	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antitumor	Simon, P.W. Carrots and Other Horticultural Crops as a Source of Provitamin A Carotenes. HortScience, 25(12): 1495, 1990.
Antitumor (Breast) IC45=60 ug/ml	
Antitumor (CNS) IC43=45 ug/ml	
Antitumor (Colon) IC43=45 ug/ml	
Antitumor (Lung) IC30=60 ug/ml	
Antitumor (Prostate)	
Antitumor (Stomach) IC26=45 ug/ml	
Antiulcer 12 mg 3x/day/man/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiulcer 15,000-25,000 IU/day	
Antixerophthalmic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
COX-1-Inhibitor IC78=50 ug/ml	
COX-2-Inhibitor IC82=50 ug/ml	
Cancer-Preventive 22 ppm	Jim Duke's personal files.
Chemopreventive	
Colorant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Gastroprotective	
Immunostimulant 180 mg/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Interferon-Synergist	
Mucogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Phagocytotic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Prooxidant 20 ug/g	
Thymoprotective	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Ubiquiot	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
BETA-CARYOPHYLLENE	Essential Oil -- 17800.0 -0.56 *
BETA-CARYOPHYLLENE	Plant 15.0 605.0 -0.06 *
BETA-PHELLANDRENE	Plant -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities (3)

Expectorant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Fungicide	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Perfumery	Merck 11th Edition

BETA-PHELLANDRENE	Essential Oil -- -- *
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Activities (3)

Expectorant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Fungicide	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Perfumery	Merck 11th Edition

BETA-PINENE	Plant 15.0 420.0 0.02 *
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Activities (13)

Allergenic	
Antiinflammatory	
Antiseptic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antispasmodic	
Candidicide	
FLavor FEMA 15-600	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Herbicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Spasmogenic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Transdermal	

Activities (13)

Allergenic	
Antiinflammatory	
Antiseptic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antispasmodic	
Candidicide	
FLavor FEMA 15-600	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Herbicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Spasmogenic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Transdermal	

BETA-SITOSTEROL

Leaf	1520.0	1600.0	-0.21	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
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Activities (47)

Allrogenic	
Angiogenic	
Anorexic	Martindale's 28th
Antiademonic	Merck 11th Edition
Antiandrogenic	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Antibacterial	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.
Anticancer (Breast)	Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.
Anticancer (Cervix)	
Anticancer (Lung)	
Antiedemic IC54=320 mg/kg orl	
Antiestrogenic	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Antifeedant	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Antifertility	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Antigonadotrophic	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Antihyperlipoproteinemic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiinflammatory	
Antileukemic	
Antilymphomeric	
Antimutagenic 250 ug/ml	
Antiphidic 2.3 mg mus	Economic & Medicinal Plant Research, 5: 363.
Antioxidant IC44=10 uM	
Antiprogestational	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Antiprostaglandin 30 mg/day/12 wks	
Antiprostatadenomic	Merck 11th Edition
Antiprostatic 10-20 mg 3 x/day/orl man	
Antipyretic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Antitumor (Breast)	Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.
Antitumor (Cervix)	
Antitumor (Lung)	
Antiviral	Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in Artemisia annua. Plant Science, 75: 161-165, 1991.
Apoptotic	
Artemicide LC50=110 ppm	Jung, J.H., Pummangura, S., Chaichantipyuth, C., Patarapanich, C., and McLaughlin, J.L. 1989. Bioactive Constituents of Melodorum fruticosum. Phytochemistry, 29(5): 1667-1670. 1990.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.
Caspase-8-Inducer	
Estrogenic	
Febrifuge	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Gonadotrophic	Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.
Hepatoprotective	
Hypocholesterolemic 2-6 g/man/day/orl	Martindale's 30th
Hypocholesterolemic 9-3,330 mg/man/day/orl	Martindale's 28th

Hypolipidemic 2-6 g/day

Pesticide

Spermicide

Ubiquit

Ulcerogenic 500 mg/kg ipr rat

Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

BETA-TERPINEOL

Plant

79.0

673.0

Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities (3)

Insectifuge

Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Perfumery

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

BETA-TERPINEOL

Essential Oil

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19800.0

-1.0

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Activities (3)

Insectifuge

Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Perfumery

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

BORNEOL

Essential Oil

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Activities (35)

(-)-Chronotropic 29 ug/ml

Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

(-)-Inotropic 29 ug/ml

Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Allelochemic

Analgesic

Antiacetylcholine

Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Antibacterial
MIC=125-250 ug/ml

Antibronchitic

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiescherichic
MIC=125 ug/ml

Antifeedant

Antiinflammatory

Antitotic

Antipyretic

Antisalmonella
MIC=125 ug/mlAntispasmodic
ED50=0.008 mg/mlAntistaphylococcic
MIC=250 ug/ml

Antiyeast MIC=250 ug/ml

CNS-Stimulant

List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

CNS-Toxic

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Candidicide MIC=250 ug/ml

Choleretic

FLavor FEMA<1

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide

Hepatoprotective

Herbicide IC50=470 mM

Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.

Herbicide IC50=470 uM

Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Inhalant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Insect-Repellent

Insectifuge

Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Irritant

Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.

Myorelaxant

Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Nematicide MLC=1 mg/ml

Shoyakugaku Zasshi, 44: 183.

Perfumery

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Sedative
Tranquilizer

Medline (post 1990 searches filed in my computer)

BORNEOL

Leaf

15.0

1462.0

1.33

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Activities (35)

(-)Chronotropic 29 ug/ml	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
(-)Inotropic 29 ug/ml	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Allelochemical	
Analgesic	
Antiacetylcholine	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Antibacterial MIC=125-250 ug/ml	
Antibronchitic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiescherichic MIC=125 ug/ml	
Antifeedant	
Antiinflammatory	
Antiotic	
Antipyretic	
Antisalmonella MIC=125 ug/ml	
Antispasmodic ED50=0.008 mg/ml	
Antistaphylococcic MIC=250 ug/ml	
Antiyeast MIC=250 ug/ml	
CNS-Stimulant	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
CNS-Toxic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Candidicide MIC=250 ug/ml	
Choleretic	
FLavor FEMA<1	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Hepatoprotective	
Herbicide IC50=470 mM	Lydon, J. & Duke, S., <i>The potential of pesticides from plants</i> , pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Herbicide IC50=470 uM	Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)</i> Marcel Dekker, Inc. NY. 665 pp.
Inhalant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Insect-Repellent	
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Rinzler, C. A. 1990. <i>The Complete Book of Herbs, Spices and Condiments. Facts on File</i> , New York. 199 pp.
Myorelaxant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Pesticide	
Sedative	Medline (post 1990 searches filed in my computer)
Tranquilizer	

BORNEOL-ACETATE

Essential Oil

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BORNYL-ACETATE

Leaf

16.0

795.0

0.02

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Activities (12)

(-)Chronotropic 933 nl/ml	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
(-)Inotropic 933 nl/ml	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antibacterial	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients 2nd Ed.</i> John Wiley & Sons, New York. 649 pp.
Antifeedant	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Antispasmodic ED50=0.09 mg/ml	Fitoterapia No.59-1984.
Antiviral	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients 2nd Ed.</i> John Wiley & Sons, New York. 649 pp.
Expectorant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
FLavor FEMA 70-80	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insectifuge	Blaschek, W.. Hansel, R.. Keller, K.. Reichlina, I.. Rimpler, H.. and Schneider, G. eds. 1998. <i>Hager's Handbuch der Pharmazeutischen Praxis. Auflage</i>

Myorelaxant Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. *Herbal Medicine - A Guide for Health-care Professionals*. The Pharmaceutical Press, London. 296pp.

Pesticide

Sedative

BORON	Plant	34.0	48.0	-0.33	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes <i>Internat. Z. Vit. Ern. Forschung</i> 43:1973 (boron).
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Activities (4)

Androgenic 3 mg/man/day

Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.

Antiosteopathic 3 mg/man/day

Estrogenic 3 mg/man/day

CAFFEIC-ACID	Leaf	--	16900.0	1.63	*
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Activities (102)

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity) Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. *Sankyo Kenkyusho Nempo*, 43: 99-110.

Allergenic

Analgesic

AntiHIV EC50=200 ug/ml

AntiLegionella

Antiadenoviral Economic & Medicinal Plant Research, 5: 207.

Antiaggregant

Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants*. Taylor & Frost, London. 791 pp.

Antiaging

Antiatherogenic

Antibacterial

Anticancer

Anticarcinogenic

Economic & Medicinal Plant Research, 6: 189.

Antidepressant

Antiedemic Economic & Medicinal Plant Research, 6: 189.

Antielastase IC50=93 um/l

Antielastase IC50=86 ug/ml (475 uM)

Antiescherichic

Economic & Medicinal Plant Research, 5: 207.

Antiflu

Jim Duke's personal files.

Antigonadotropic

Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. *Phytochemistry*. 36(3): 579-583. 1994.

Antihemolytic 25 uM

Antihepatoadenomic 200 ppm diet orl mus

Antihapatotoxic

Antiherpetic 50 ug/ml

Antiherpetic EC50=>50 ug/ml

Antihistaminic

Economic & Medicinal Plant Research, 6: 189.

Antihypercholesterolemic

Antihyperthyroid

Antiinflammatory

Antileukemic

Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antileukotriene

Antimelanogenic

Antimutagenic

Ki Soon Rhee. *Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health*, Ch.18.

Antinitrosaminic

Ki Soon Rhee. *Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health*, Ch.18.

Antiophidic

Antioxidant 50 uM

Antioxidant IC57=30 ppm

Antioxidant 1/3 quercetin

Antioxidant 30 mM

Antioxidant 1.3 x Vit. E

Antioxidant 1/2 BHA

Planta Medica, 57: A54, 1991.

Antiperoxidant IC50=44 uM

Antiperoxidant IC35=200 ug/ml

Antiperoxidant IC85=100 ug/ml

Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antiprostaglandin

Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	Phytotherapy Research, 4: 73.
Antistaphylococcic	
Antistomatisic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithyroid	Jim Duke's personal files.
Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	Cancer Research, 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	
Anxiolytic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Lipoxygenase-Inhibitor IC50=62-148 uM	
Lyase-Inhibitor IC50=94-164 uM	
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Pesticide	
Prooxidant	
Prostaglandigenic	
Sedative 500 mg	
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Tumorigenic	Jim Duke's personal files.
Vulnerary	
Xanthine-Oxidase-Inhibitor IC50=39.21 uM	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.

Activities (28)

AntiPMS 1 g/day					
Antiallergic 500 mg/day					
Antianxiety					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiarrhythmic 500-1,500 mg					
Antiarthritic 1,000 mg/day					
Antiatherosclerotic 500 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticlimacteric 1,000-1,500 mg/day					
Antidepressant					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidote (Aluminum)					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidote (Lead)					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antihyperkinetic					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antihypertensive					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiinsomniac					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antimenopausal 1,000-1,500 mg/day					
Antiobesity					
Antiosteoporotic 500-2,000 mg/day					
Antiperiodontic 750 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antirheumatic 1,000 mg/day					
Antistress 500-1,500 mg/day					
Antitic					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Anxiolytic 500-1,500 mg/day					
Calcium-Channel-Blocker					
Diuretic					
Hypocholesterolemic 500 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Hypotensive 1 g/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Laxative 1,000-1,200 mg					
Tranquilizer 500-1,500 mg/day					
Vasodilator					

CALCIUM

Leaf 2806.0 16700.0 -0.12 *

Activities (28)

AntiPMS 1 g/day					
Antiallergic 500 mg/day					
Antianxiety					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiarrhythmic 500-1,500 mg					
Antiarthritic 1,000 mg/day					
Antiatherosclerotic 500 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticlimacteric 1,000-1,500 mg/day					
Antidepressant					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidote (Aluminum)					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidote (Lead)					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antihyperkinetic					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antihypertensive					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiinsomniac					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antimenopausal 1,000-1,500 mg/day					
Antiobesity					
Antiosteoporotic 500-2,000 mg/day					
Antiperiodontic 750 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antirheumatic 1,000 mg/day					
Antistress 500-1,500 mg/day					
Antitic					Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Anxiolytic 500-1,500 mg/day					
Calcium-Channel-Blocker					
Diuretic					
Hypocholesterolemic 500 mg/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Hypotensive 1 g/day					Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Laxative 1,000-1,200 mg					
Tranquilizer 500-1,500 mg/day					
Vasodilator					

CAMPESTEROL

Plant -- 30.0 -0.6 Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)

Activities (2)

Hypocholesterolemic Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

CAMPHENENE	Plant	15.0	375.0	0.04	*
Activities (9)					
Allelopathic	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.				
Antilithic?	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antioxidant	Jim Duke's personal files.				
Expectorant	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.				
FLavor FEMA 15-175	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Hypocholesterolemic?	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Pesticide					
Spasmogenic	Fitoterapia No.59-1984.				

CAMPHENENE	Essential Oil	--	4100.0	-0.57	*
Activities (9)					
Allelopathic	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.				
Antilithic?	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antioxidant	Jim Duke's personal files.				
Expectorant	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.				
FLavor FEMA 15-175	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Hypocholesterolemic?	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Pesticide					
Spasmogenic	Fitoterapia No.59-1984.				

CAMPHOR	Plant	5.0	45.0	-0.63	J. Ethnopharmacology, 39: 167.
Activities (41)					
Allelopathic					
Analgesic					
Anesthetic					
Antiacne	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.				
Antidiarrheic 500 ug/ml	Wealth of India.				
Antidisenteric 500 ug/ml	Wealth of India.				
Antiemetic 100-200 mg man orl	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antifeedant IC50=5,000 ppm diet	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.				
Antifibrotic	Martindale's 28th				
Antineuragic	Martindale's 28th				
Antipruritic	Merck 11th Edition				
Antiseptic	Merck 11th Edition				
Antispasmodic ED50=0.075 mg/ml	Fitoterapia No.59-1984.				
CNS-Stimulant					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.				
Convulsant	R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That:The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. Anns. Intern. Med. 117(2):165-6; Huxtable, R.				
Cosmetic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Counterirritant	Martindale's 28th				
Decongestant	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.				
Deliriant	Merck 11th Edition				
Ecbolic					
Emetic					
Epileptogenic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
Expectorant	Martindale's 29th				
Fungicide ED50=2.7 mM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.				

IC50=3.3-180 mM	in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Insect-Repellent	
Insectifuge	
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Occulorirritant	
P450-2B1-Inhibitor IC50=7.89 uM	
Pesticide	
Respirainhibitor	Merck 11th Edition
Respirastimulant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Rubefacient	
Stimulant	R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That: The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. Ann. Intern. Med. 117(2):165-6; Huxtable, R.
Transdermal	
Verrucolytic	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Vibriocide 500 ug/ml	Wealth of India.

CAPRIC-ACID Plant 1200.0 1296.0 1.34 USDA's Ag Handbook 8 and sequelae)

Activities (3)

Fungicide
Irritant
Pesticide

CAPRYLIC-ACID Plant 2400.0 2592.0 -1.0 USDA's Ag Handbook 8 and sequelae)

Activities (5)

Antiseptic
Candidicide 300 mg/man/12 x/day
Fungicide
Irritant
Pesticide

CAR-3-ENE Plant 127.0 1080.0 Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

CAR-3-ENE Essential Oil -- 31800.0 1.41 *

CAR-4-ENE Plant -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

CAR-4-ENE Essential Oil -- -- *

CARBOHYDRATES Leaf 116424.0 693000.0 0.65 *

CARBOHYDRATES Plant 639400.0 690552.0 0.12 USDA's Ag Handbook 8 and sequelae)

CARVACROL Essential Oil 16700.0 80200.0 -0.7 *

Activities (37)

Allergenic
Anesthetic
Anthelmintic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antialzheimeran? L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiatherosclerotic Chalchat, J.C. et Garry, R.P.*, Bastide, P., Fabre, F. et Malhuret, R. Correlation Composition Chimique/Activite Antimicrobienne: V - Contribution a la Comparaison de 2 Methodes de Determination Des Cm. Plantes medicinales et phytotherapie, 25: 184-193.
MIC=5.53 uM Antibacterial MIC 170-290
Antibacterial MIC=39-625 Russell, G. B., Phytochemical resources for crop protection, N. Z. J. Technol., 2, 1986, 127-134.
Anticholinesterase? L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antidiuretic Lawrence Review of Natural Products, Mar-92.
Antiinflammatory Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
IC50=4 uM
Antimelanomic IC50=120 uM/l
Antioxidant
Antioxidant (LDL) Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
IC50=5.53 uM
Antiplaque MIC=39-625 ug/ml Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I.. Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria, Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21

Antiradicular 600 x thymol	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity.'JE05: 153-8.
Antiseptic 1.5 x phenol	
Antispasmodic	
Antistaphylococccic	
Antistreptococcic	
Antitussive	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Candidicide MIC<0.1 ug/ml	
Candidicide 100-150 ug/ml	
Carminative	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Cyclooxygenase-Inhibitor #NAME?	
Enterorelaxant	J. Aromatherapy 4: 22.
Expectorant	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 10-125	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Nematicide MLC=1 mg/ml	
Pesticide	
Prostaglandin-Inhibitor	
Tracheorelaxant	
Trichomonicide LD100=150 ug/ml	
Vermifuge	

CARVACROL

Shoot -- -- *

Activities (37)

Allergenic	
Anesthetic	
Anthelmintic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antialzheimeran?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiatherosclerotic IC50=5.53 uM	
Antibacterial MIC 170-290	Chalchat, J.C. et Garry, R.P.*, Bastide, P., Fabre, F. et Malhuret, R. Correlation Composition Chimique/Activite Antimicrobienne: V - Contribution a la Comparaison de 2 Methodes de Determination Des Cm. Plantes medicinales et phytotherapie, 25: 184-193.
Antibacterial MIC=39-625	Russell, G. B., Phytochemical resources for crop protection, N. Z. J. Technol., 2, 1986, 127-134.
Anticholinesterase?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antidiuretic	Lawrence Review of Natural Products, Mar-92.
Antiinflammatory IC50=4 uM	
Antimelanomic IC50=120 uM/l	
Antioxidant	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity.'JE05: 153-8.
Antioxidant (LDL) IC50=5.53 uM	
Antiplaque MIC=39-625 ug/ml	Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I., Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria, Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21
Antiprostaglandin	
Antiradicular 600 x thymol	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity.'JE05: 153-8.
Antiseptic 1.5 x phenol	
Antispasmodic	
Antistaphylococccic	
Antistreptococcic	
Antitussive	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Candidicide MIC<0.1 ug/ml	
Candidicide 100-150 ug/ml	
Carminative	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Cyclooxygenase-Inhibitor #NAME?	
Enterorelaxant	J. Aromatherapy 4: 22.
Expectorant	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.

Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Nematicide MLC=1 mg/ml	
Pesticide	
Prostaglandin-Inhibitor	
Tracheorelaxant	
Trichomonicide LD100=150 ug/ml	
Vermifuge	

CARVACROL	Plant	8.0	18720.0	1.72	*
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Activities (37)

Allergenic	
Anesthetic	
Anthelmintic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antialzheimeran?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiatherosclerotic IC50=5.53 uM	
Antibacterial MIC 170-290	Chalchat, J.C. et Garry, R.P.*, Bastide, P., Fabre, F. et Malhuret, R. Correlation Composition Chimique/Activite Antimicrobienne: V - Contribution a la Comparaison de 2 Methodes de Determination Des Cm. Plantes medicinales et phytotherapie, 25: 184-193.
Antibacterial MIC=39-625	Russell, G. B., Phytochemical resources for crop protection, N. Z. J. Technol., 2, 1986, 127-134.
Anticholinesterase?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antidiuretic	Lawrence Review of Natural Products, Mar-92.
Antiinflammatory IC50=4 uM	
Antimelanomic IC50=120 uM/l	
Antioxidant	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JE05: 153-8.
Antioxidant (LDL) IC50=5.53 uM	
Antiplaque MIC=39-625 ug/ml	Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I. Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria. Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21
Antiprostaglandin	
Antiradicular 600 x thymol	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JE05: 153-8.
Antiseptic 1.5 x phenol	
Antispasmodic	
Antistaphylococcc	
Antistreptococcc	
Antitussive	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Candidicide MIC<0.1 ug/ml	
Candidicide 100-150 ug/ml	
Carminative	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Cyclooxygenase-Inhibitor #NAME?	
Enterorelaxant	J. Aromatherapy 4: 22.
Expectorant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 10-125	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Nematicide MLC=1 mg/ml	
Pesticide	
Prostaglandin-Inhibitor	
Tracheorelaxant	
Trichomonicide LD100=150 ug/ml	
Vermifuge	

CARVONE	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
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Activities (19)

Antiacetylcholinesterase IC50=1.4-1.8 mM	
Antiproliferative	
Antiseptic 1.5 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
CNS-Stimulant	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidstat	
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. <i>J. Pharm. Pharmacol.</i> 46: 14-18, 1994.
FLavor FEMA 80-3,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungistat	
Insecticide	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	
Sedative	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Trichomonicide LD100=300 ug/ml	
Vermicide	

CARYOPHYLLENE	Essential Oil	--	13600.0	-0.51	*
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Activities (31)

Aldose-Reductase-Inhibitor	
Allergenic	
Analgesic	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Antiacne	
Antiasthmatic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antibacterial	
Anticariogenic MIC=>1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antidermatitic	
Antiedemic	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (<i>Lavandula latifolia</i> Vill.)2). <i>Chem. Pharm. Bull.</i> 38(8): 2283-2284, 1990.
Antifeedant 500 ppm	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Antiinflammatory IC50=100 uM	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (<i>Lavandula latifolia</i> Vill.)2). <i>Chem. Pharm. Bull.</i> 38(8): 2283-2284, 1990.
Antileishmanic	
Antionychyotic	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Antiproliferant	
Antispasmodic	
Antistaphylococcic	
Antistreptococcic	
Antitumor	Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove (<i>Eugenia caryophyllata</i>) As Potential Anticarcinogenic Agents. <i>Journal of Natural Products</i> 55(7): 999-1003, 1992.
Antiulcer	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Candidicide	
FLavor FEMA 20-200	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Gastroprotective	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Insectifuge	
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Larvicide	
Mosquitocide	
Perfumery	Merck 11th Edition
Pesticide	
Sedative	
Termitifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

CHLOROGENIC-ACID	Shoot	--	--	*
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Activities (77)

Aldose-Reductase-Inhibitor IC50=1.8 uM rat (strong activity)	Yoshikawa, M., et al. 1999. Medicinal Flowers. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of Chrysanthemum indicum L. <i>Chem Pharm Bull.</i> 47(3): 340-345.
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Allergenic	
Analgesic	
AntiEBV	Economic & Medicinal Plant Research, 6: 189.
AntiHIV	Economic & Medicinal Plant Research, 6: 189.
AntiLegionella	
Antiatherosclerotic	
Antibacterial	
Anticancer (Colon)	
Anticancer (Forestomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidiabetic	
Antifeedant	
Antigenotoxic	
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatotoxic	
Antiherpetic	Economic & Medicinal Plant Research, 5: 194.
Antihistaminic	
Antihypercholesterolemic	Economic & Medicinal Plant Research, 6: 189.
Antihyperthyroid	
Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Antileukotriene	
Antimelanogenic	
Antimutagenic	
Antinitrosaminic	
Antioxidant IC53=200 ppm	Huang, M-T., and Ferraro, T. Phenolic Compounds in Food and Cancer Prevention. Phenolic Compounds in Food and Their Effects on Health, Ch.2 p.21.
Antioxidant IC80=12 uM	
Antioxidant IC50=54.2 uM	
Antiperoxidant IC50=36 uM	Planta Medica, 57: A54, 1991.
Antipolio	Jim Duke's personal files.
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 9 x quercetin	
Antiseptic	
Antisunburn	
Antithyroid	Jim Duke's personal files.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC25=10 uM	
Antiulcer	Economic & Medicinal Plant Research, 6: 189.
Antiviral	Vlietinck, A.J. and Dommisse, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.
Autotoxic	
CNS-Active	Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
CNS-Stimulant 1/6 Caffeine	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Clastogenic	Friedman, M. and Dao, L. 1990. Effect of Autoclaving and Conventional and Microwave Baking on the Ergot Alkaloid and Chlorogenic Acid Contents of Morning Glory (<i>Ipomoea tricolor</i> Cav. cv.) Heavenly Blue Seeds. <i>J. Agric. Food Chem.</i> 38: 805-808.
Collagen-Sparing	
Diuretic	
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.
Hepatoprotective	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Histamine-Inhibitor	
Hypoglycemic	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Interferonogenic	Economic & Medicinal Plant Research, 1: 124.

Larvistat	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC23=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.
NO-Genic	
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	
Sunscreen	
Sweetener	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Vulnerary	

CHLOROGENIC-ACID	Plant	--	--	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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Activities (77)

Aldose-Reductase-Inhibitor IC50=1.8 uM rat (strong activity)	Yoshikawa, M., et al. 1999. Medicinal Flowers. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of Chrysanthemum indicum L. <i>Chem Pharm Bull</i> , 47(3): 340-345.
Allelochemical	
Allergenic	
Analgesic	
AntiEBV	Economic & Medicinal Plant Research, 6: 189.
AntiHIV	Economic & Medicinal Plant Research, 6: 189.
AntiLegionella	
Antitherosclerotic	
Antibacterial	
Anticancer (Colon)	
Anticancer (Forestomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidiabetic	
Antifeedant	
Antigenotoxic	
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatotoxic	
Antiherpetic	Economic & Medicinal Plant Research, 5: 194.
Antihistaminic	
Antihypercholesterolemic	Economic & Medicinal Plant Research, 6: 189.
Antihyperthyroid	
Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Antileukotriene	
Antimelanogenic	
Antimutagenic	
Antinitrosaminic	
Antioxidant IC53=200 ppm	Huang, M-T., and Ferraro, T. <i>Phenolic Compounds in Food and Cancer Prevention</i> . <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.2 p.21.
Antioxidant IC80=12 uM	
Antioxidant IC50=54.2 uM	
Antiperoxidant IC50=36 uM	Planta Medica, 57: A54, 1991.
Antipolio	Jim Duke's personal files.
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 9 x quercetin	
Antiseptic	
Antisunburn	
Antithyroid	Jim Duke's personal files.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC25=10 uM	

Antiviral	Vlietinck, A.J. and Dommisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Autotoxic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
CNS-Stimulant 1/6 Caffeine	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Clastogenic	Friedman, M. and Dao, L. 1990. Effect of Autoclaving and Conventional and Microwave Baking on the Ergot Alkaloid and Chlorogenic Acid Contents of Morning Glory (<i>Ipomoea tricolor</i> Cav. cv.) Heavenly Blue Seeds. <i>J. Agric. Food Chem.</i> 38: 805-808.
Collagen-Sparing	
Diuretic	
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Hepatoprotective	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Histamine-Inhibitor	
Hypoglycemic	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Interferonogenic	Economic & Medicinal Plant Research, 1: 124.
Juvabional	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvistat	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC23=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.
NO-Genic	
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	
Sunscreen	
Sweetener	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Vulnerary	

CHROMIUM

Leaf 0.3 2.0 -0.48 *

Activities (24)

Amphiglycemic?	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
AntiAGE 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
AntiCFS 200 ug	
Antiacne	
Antiaging 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antiatherosclerotic 20 ug/day	
Anticoroneotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidiabetic 200-1,000 ug	
Antidote (Lead)	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antifatigue 200 ug	
Antiglycosuric 200-1,000 ug	
Antiobesity 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antisyndrome-X 200-800 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antitriglyceride 20 ug/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antitriglyceride 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Cardioprotective	
Energizer	
Hypocholesterolemic 20 ug/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Hypocholesterolemic 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Hypoglycemic 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Hypotensive 200-1,000 ug	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95

Insulinogenic
Memorigenic

CHRYSOERIOL	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
Activities (7)				
Aldose-Reductase-Inhibitor IC31=10 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.			
Anticomplementary				
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.			
Antioxidant				
Antirhinoviral	Economic & Medicinal Plant Research, 5: 197.			
Antiviral	Economic & Medicinal Plant Research, 5: 197.			
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
CINEOLE	Plant	10.0	4590.0	0.64 *
CINNAMIC-ACID	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
Activities (18)				
Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.			
Allergenic				
Anesthetic				
Antibacterial	Martindale's 28th			
Antiinflammatory				
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.			
Antispasmodic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.			
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Choleretic				
Dermatitigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.			
FLavor FEMA 4-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry			
Fungicide				
Herbicide				
Laxative				
Lipoxygenase-Inhibitor				
Pesticide				
Tyrosinase-Inhibitor ID50=700 uM				
Vermifuge				
CIRSIMARITIN	Leaf	--	--	*
Activities (10)				
Aldose-Reductase-Inhibitor 10 uM	Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids. <i>Biochem Pharmacol</i> , 31(23): 3807-3822.			
Antiinflammatory IC~37=1,000 uM				
Antimalarial IC50=36 uM				
Antispasmodic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.			
COX-1-Inhibitor IC37=1,000 uM				
COX-2-Inhibitor IC>37=1,000 uM				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Parasiticide IC50=36 uM				
Pesticide				
Plasmodicide IC50=36 uM				
CIRSIMARITIN	Leaf	--	20.0	*
Activities (9)				
Aldose-Reductase-Inhibitor 10 uM	Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids. <i>Biochem Pharmacol</i> , 31(23): 3807-3822.			
Aldose-Reductase-Inhibitor IC50=1.6 ug/ml cow	Okada,Y,et al.1995.Search for Naturally Occurring Substances to Prevent the Complications of Diabetes.II.Inhibitory Effect of Coumarin and Flavonoid Derivatives on Bovine Lens Aldose Reductase and Rabbit Platelet Aggregation.Chem Pharm Bull43(8):1385-1387			
Antibacterial	Recio, M. C., Rios, J. L., and Villar, A. A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, <i>Phytotherapy Research</i> , 3(4), 1989, 117-125.			
Antiinflammatory IC~50=1,000 uM				
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.			

IC₅₀=1,000 uM

COX-2-Inhibitor

IC>50=1,000 uM

Cancer-Preventive
Pesticide

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

CIRSIMARITRIN	Leaf	--	20.0	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
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CITRAL	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
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Activities (53)

Allergenic				
Antiallergenic				
Antiallergic				Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antianaphylactic				
Antibacterial				
Anticancer				
Antihelicobacter				
Antiherpetic				
Antihistaminic				Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory				
Antileishmanic				
Antioxidant				
Antiseptic 5.2 x phenol				
Antishock				Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antispasmodic				
Antitumor				
Antitumor (Colon)				
Antitumor (Liver)				
Antitumor (Skin)				
Antiulcer				
Antiviral				
Apoptotic				
Barbituate-Synergist				
Bronchorelaxant				Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Calcium-Antagonist				
Cancer-Preventive				Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic				
Caspase-3-Inducer				
Chemopreventive				
Cytotoxic				
Estrogenic				
Expectorant				Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
FLavor FEMA 4-170				Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry
Fungicide MIC 625 ug/ml				
Glaucomagenic				
Glutathionigenic				
Herbicide IC50=115 uM				Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Myorelaxant 200 mg/kg				
NF-kB-Inhibitor				
NO-Inhibitor				
Nematicide IC52=100 ug/ml				Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Nematicide MLC=100-260 ug/ml				Shoyakugaku Zasshi, 44: 183.
P450-2B1-Inhibitor IC50=1.19 uM				
Perfumery				Merck 11th Edition
Pesticide				
Prostatitigenic 185 mg/kg/day/3 ms				
Sedative ED 1-32 mg/kg				Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Sedative 1 mg/kg				
Teratogenic				
Trichomonicide LD100=150 ug/ml				
Trypanocide				
Tyrosinase-Inhibitor ID50=1.5 mM				
Tyrosinase-Inhibitor ID50=1,500 uM				

Activities (2)

Cardiomyopathogenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Erythrocytogenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.

COPPER

Plant 8.0 9.0 -0.56 USDA's Ag Handbook 8 and sequelae)

Activities (12)

Antianemic	
Antiarthritic	
Antidiabetic 2-4 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antifatigue	
Antiinflammatory	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antinociceptive	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiosteoporotic	
Cardioprotective	
Contraceptive	Martindale's 28th
Hypocholesterolemic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Immunomodulator	
Schizophrenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.

COSMOSIN

Leaf -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities (4)

Aldose-Reductase-Inhibitor IC40=1 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Aldose-Reductase-Inhibitor IC99=10 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Antibacterial MIC=500 ug/ml	Planta Medica, 57: A43, 1991.
Candidicide MIC=500 ug/ml	Planta Medica, 57: A43, 1991.

COSMOSIN

Plant -- -- *

Activities (4)

Aldose-Reductase-Inhibitor IC40=1 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Aldose-Reductase-Inhibitor IC99=10 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Antibacterial MIC=500 ug/ml	Planta Medica, 57: A43, 1991.
Candidicide MIC=500 ug/ml	Planta Medica, 57: A43, 1991.

COUMARIN

Essential Oil -- 3000.0 *

Activities (57)

Aldose-Reductase-Inhibitor 10 ug/ml cow (weak activity, 11% inhibition)	Okada,Y,et al.1995.Search for Naturally Occurring Substances to Prevent the Complications of Diabetes.II.Inhibitory Effect of Coumarin and Flavonoid Derivatives on Bovine Lens Aldose Reductase and Rabbit Platelet Aggregation.Chem Pharm Bull43(8):1385-1387
Allelochemical IC100=2 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Analgesic	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Anesthetic	
Antiaggregant	
Antiandrogenic	Planta Medica, 56(6): 671, 1990.
Antibrucellosis	Gawron, A., Gorski*, G., Glowniak**, K. 1989. Increased proliferation of phytohaemagglutinin (PHA)-stimulated human leucocytes after 8-methoxysoralen treatment. <i>J. Pharm. Pharmacol.</i> 42: 194-195, 1990.
Anticancer (Kidney) 400-7,000 mg/day	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Anticancer (Prostate) 400-7,000 mg/day	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Antidiuretic	
Antiedemic	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (<i>Lavandula latifolia</i> Vill.)2). <i>Chem. Pharm. Bull.</i> 38(8): 2283-2284, 1990.
Antiesherichic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiinflammatory	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (<i>Lavandula latifolia</i> Vill.)2). <i>Chem. Pharm. Bull.</i> 38(8): 2283-2284, 1990.
Antilymphedemic	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Antimelanomic 50 mg/day	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Antimetastatic 50 mg/man/day	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Antimitotic	Pandeya, S.N. 1970. Biological Activity of Adamantyl Derivatives. <i>The Indian Journal of Pharmacy</i> , 33: 7.

Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antimycoplasmotic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Antipsittacotic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Antipsoriac	Pandeya, S.N. 1970. Biological Activity of Adamantyl Derivatives. <i>The Indian Journal of Pharmacy</i> , 33: 7.
Antitoxoplasmotic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Antitumor 50 mg/day	
Antitumor (GI)	
Antitumor (Kidney) 400-7,000 mg/day	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Antitumor (Prostate) 400-7,000 mg/day	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Bacteristat	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Bruchiphobe	
Cancer-Preventive 5-25 ug/ml	Gawron, A. and Glowniak, K. 1987. Cytostatic Activity of Coumarins in vitro. <i>Planta Medica</i> 1987: 526.
Carcinogenic 200 mg/kg orl mus	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.
Cardiodepressant	
Cardiotonic	
Chemopreventive	
DME-Inhibitor IC50=57.5 uM	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 134.
Emetic	
Estrogenic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Hemorrhagic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Hepatotoxic 0.8-1.71 mM/kg orl rat	
Hepatotoxic 2,500 ppm diet	
Hepatotoxic 100 mg/kg dog	
Hypnotic	Schultes, R.E. De Plantis Toxicariis e Mundo Novo Tropicale Commentationes XXXVI. <i>Justicia (Acanthaceae) as a Source of an Hallucinogenic Snuff</i> . Economic Botany 44(1): 61-70, 1990.
Hypoglycemic 250-1,000 mg/kg orl	Economic & Medicinal Plant Research, 6: 165
Immunostimulant	
Juvabional	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvistat	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Lymphocytogenic 100 mg/day	Gawron, A., Gorski*, G., Glowniak**, K. 1989. Increased proliferation of phytohaemagglutinin (PHA)-stimulated human leucocytes after 8-methoxysoralen treatment. <i>J. Pharm. Pharmacol.</i> 42: 194-195, 1990.
Lymphokinetic	
Narcotic	
Ovicide	
Pesticide	
Phagocytotic	Planta Medica, 56(6): 671, 1990.
Piscicide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Respirodepressant	
Rodenticide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Sedative	Schultes, R.E. De Plantis Toxicariis e Mundo Novo Tropicale Commentationes XXXVI. <i>Justicia (Acanthaceae) as a Source of an Hallucinogenic Snuff</i> . Economic Botany 44(1): 61-70, 1990.

CUMINYL-ALCOHOL

Essential Oil -- -- *

CYNAROSIDE

Plant -- -- *

Activities (3)

Aldose-Reductase-Inhibitor
IC50=0.99 uM rat (strong activity)

Yoshikawa, M., et al. 1999. *Medicinal Flowers. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of Chrysanthemum indicum L.* Chem Pharm Bull, 47(3): 340-345.

Calcium-Antagonist IC50=1.2 uM
rbt

Hypocholesterolemic

CYSTINE

Plant 1370.0 1980.0 -0.15 *

Activities (2)

Adjuvant	Merck 11th Edition
Antihomocystinuric	Martindale's 29th

DELTA-3-CARENE

Plant -- 510.0 1.41 Lawrence, B.M., *Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980*.

Activities (8)

Allergenic?

Antiinflammatory ipr	Internat. J. Oriental Med. 15(4): 194, 1990+
Dermatitigenic	
FLavor FEMA	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Insectifuge	
Irritant	
Pesticide	
DELTA-CADINENE	Essential Oil -- -- *
Activities (9)	
Aldose-Reductase-Inhibitor	
Antiacne	
Antibacterial MIC800 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Anticariogenic MIC800 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antistreptococcic	
Cytochrome-P450-Inducer	
P450-Inducer	
Pesticide	
Testosterone-Inducer	
DIOSMETIN	Plant -- -- Stitt, Paul. Why George should eat broccoli.
Activities (13)	
Aldose-Reductase-Inhibitor IC17=10 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Antialzheimeran	
Antidementia	
Antimutagenic ID50=10-40 nM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507 ACS, Washington 402 pp.
Antirhinoviral	Economic & Medicinal Plant Research, 5: 197.
Antiviral	Economic & Medicinal Plant Research, 5: 197.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Estrogenic EC50=2.9 uM	
NO-Inhibitor EC50=19 uM	
Osteoblastogenic	
PPAR-Gamma-Antagonist	
TNF-alpha-Inhibitor IC50=3.27 uM	
TNF-alpha-Inhibitor EC50=39 uM	
EO	Plant 4000.0 34000.0 1.84 ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
EO	Leaf 1344.0 26000.0 1.27 *
ERIODICTYOL	Plant -- -- *
Activities (10)	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antifeedant IC52=<1,000 ppm diet	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Antiinflammatory	
Antioxidant	
Antiperoxidant	Planta Medica, 57: A110, 1991.
Aphidifuge	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Expectorant	Lawrence Review of Natural Products, Mar-91.
Juvabional	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Pesticide	
EUDESMOL	Essential Oil -- -- *
EUGENOL	Plant -- -- Stitt, Paul. Why George should eat broccoli.
Activities (76)	
Acaricide ID50=5.47 uM/sa	

Allergenic	
Analgesic	Merck 11th Edition
Anesthetic 200-400	Phytotherapy Research, 4: 93.
AntiTNF	
Antiaggregant IC50=0.3 uM	Phytotherapy Research, 4: 93.
Antiarachidonate	
Antibacterial 500 ppm	Valnet, J. 1982. The Practice of Aromatherapy. Translated from the 1980 French Edition by Robin Campbell and Libby Houston. Destiny Books, New York. 279 pp.
Antibacterial MBC=400 ug/ml	
Anticonvulsant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiedemic 100	Phytotherapy Research, 4: 95.
Antiestrogenic	
Antifeedant	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Antigenotoxic 50-500 mg/kg orl mus	
Antiherpetic IC50=16.2-25.6 ug/ml	
Antiinflammatory (11 uM) IC~97=1,000 uM	
Antikeratotic IC50=16.2-25.6 ug/ml	
Antimitotic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antinitrosating	
Antioxidant IC65=30 ppm	
Antioxidant 10 uM	
Antiprostaglandin 11 uM	
Antiprostaglandin IC50=9.2 mM	
Antipyretic 3 ml/man/day	
Antiradicular EC50=2 ul/l	
Antisalmonella MIC=400 ug/ml	
Antiseptic 3 ml/man/day	
Antiseptic 400 ug/ml	
Antispasmodic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antistaphylococcal	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis,NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.
Antithromboxane	Lawrence Review of Natural Products, Jul-87.
Antitumor	Zheng, G-Q., Kenney, P.M. and Lam, L.K.T. Sesquiterpenes From Clove (<i>Eugenia caryophyllata</i>) As Potential Anticarcinogenic Agents. Journal of Natural Products 55(7): 999-1003, 1992.
Antiulcer	
Antiviral IC50=16.2-25.6 ug/ml	
Apifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
COX-1-Inhibitor IC97=1,000 uM	
COX-2-Inhibitor IC>97=1,000 uM	
COX-2-Inhibitor IC50=129 uM	
Calcium-Antagonist IC50=224 uM	
Calcium-Antagonist IC50=200 uM gpg	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	Phytotherapy Research, 4: 93.
Carcinogenic?	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.
Choleretic	
Cytochrome-P450-Inhibitor	Pizzorno, J. 1998. Total Wellness. Prima Health, a division of Prima.
Cytotoxic 25 ug/ml	Phytotherapy Research, 4: 93.
Dermatitigenic	
Enterorelaxant	J. Aromatherapy 4: 22.
FLavor FEMA 10-500	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Hepatoprotective 100 ppm	
Herbicide	
Insecticide	
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Juvabional	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvicide	
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Nematicide MLC=2,000 ug/ml	Shoyakugaku Zasshi, 44: 183.
Neurotoxic	R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That:The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benficit Nature. The Risk of Herbal Preparations. Anns. Intern. Med. 117(2):165-6; Huxtable, R.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Prostaglandin-Synthesis-Inhibitor 1 mM rbt	Chen, S. J., Wang, M. H., Chen, I. J. 1996. Antiplatelet and Calcium Inhibitory Properties of Eugenol and Sodium Eugenol Acetate. <i>Gen Pharmacol</i> , 27(4): 629-633.
Prostaglandin-Synthesis-Inhibitor IC50=9.2 uM	
Sedative	
Termiticide LD100=5 mg/g	
Trichomonicide LD100=300 ug/ml	
Trichomonistat IC50=10 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.
Trypsin-Enhancer	Lawrence Review of Natural Products, Dec-93.
Ulcerogenic	<i>Phytotherapy Research</i> , 4: 93.
Varroacide	
Vasodilator	
Vermifuge	

FAT	Leaf	13440.0	80000.0	0.47	*
FAT	Seed	370000.0	389000.0	0.65	*
FAT	Plant	69480.0	80000.0	0.41	*
FERULIC-ACID	Plant	--	--	Stitt, Paul. Why George should eat broccoli.	

Activities (61)

Allelopathic	Holappa, L.D., and Blum*, U. 1991. Effects of Exogenously Applied Ferulic Acid, a Potential Allelopathic Compound, on Leaf Growth, Water Utilization, and Endogenous Abscisic Acid Levels of Tomato, Cucumber, and Bean. <i>J. of Chemical Ecology</i> , 17(5): 865.
Analgesic	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 69.
Antiaggregant	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. <i>Chem. Pharm. Bull.</i> 38(6): 1620-1623, 1990.
Antiallergic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antiarrhythmic	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Anticancer (Colon)	
Anticancer (Fore stomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidysmenorrheic	
Antiestrogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiherpetic	
Antiinflammatory	Hagerman, A.E. <i>Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Antileukemic IC50=25-56 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antimitotic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antimutagenic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antineoplastic (Stomach)	
Antinitrosaminic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antioxidant 3,000 uM	
Antioxidant IC51=200 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 1/2 BHA	
Antioxidant EC50=9-15 ug/ml	
Antiradicular EC50=9-15 ug/ml	
Antiradicular IC50=116-124 uM	

	791 pp.
Antispasmodic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antithrombic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC46=10 uM	Cancer Research, 48: 5941.
Antiviral	Vlietinck, A.J. and Dommisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Arteriodilator	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. Chem. Pharm. Bull. 38(6): 1620-1623, 1990.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardiac	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. Chem. Pharm. Bull. 38(6): 1620-1623, 1990.
Chalagogue	Pharmazie, 46: 156, 1991.
Choleretic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd, Essex UK, 362 pp, 1988, réprint 1989.
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Hepatoprotective	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingston, Edinburgh.
Hepatotropic	
Herbicide	Angewandte Botanik 68(5/6)=1994. Page 195.
Hydrocholorectic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hypolipidemic	
Immunostimulant	Economic & Medicinal Plant Research, 1: 124.
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Pesticide	
Phagocytotic	
Preservative	Merck 11th Edition
Prostaglandenic	
Prostaglandin-Synthesis-Inhibitor 0.58-3.2 mM	Xu, L. N., Yu, W. G., Tian, J. Y., Liu, Q. Y. 1990. Effect of Sodium Ferulate on Arachidonic Acid Metabolism. Yao Hsueh Hsueh Pao, 25(6): 412-416.
Sunscreen	Chemical Marketing Reporter; a weekly tabloid, 9/10/92.
Uterosedative 30-100 mg/kg i.v. rat	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. Chem. Pharm. Bull. 38(6): 1620-1623, 1990.

FIBER Plant 179294.0 693000.0 3.48 *

Activities (15)

Angiotensin-Receptor-Blocker	
Antidiabetic	
Antihypertensive	
Antiobesity	
Antitumor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antilulcer	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Beta-Blocker	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Diuretic	
Hypocholesterolemic	
Hypotensive 10 g/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Hypouricemic	
Laxative	
Vasodilator	

FIBER(CRUD) Leaf -- 202000.0 1.95 *

FIBER(DIETARY) Leaf -- 363000.0 -0.14 *

FIXED-OIL Seed -- -- *

GALLIC-ACID Plant -- -- Stitt, Paul. Why George should eat broccoli.

Activities (62)

mM/l

Analgesic

AntiHIV

AntiMRSA

Antiadenovirus

Economic & Medicinal Plant Research, 5: 194.

Antiallergenic

Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.

Antianaphylactic

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiangiogenic

Watt, J.M., and Breyer-Brandwijk, M.G. The Medicinal and Poisonous Plants of Southern and Eastern Africa. 1962.

Antiasthmatic

Antibacterial

MIC=1,000 ug/ml

Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.

Antibronchitic

Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.

Anticancer

Anticarcinomic

ED50=3

Economic & Medicinal Plant Research, 1: 53.

Antiescherichic

Economic & Medicinal Plant Research, 5: 194.

Antifibrinolytic

Okuda, T., Yoshida, T., and Hatano, T. Antioxidant Effects of Tannins and Related Polyphenols. Phenolic Compounds in Food and Their Effects on Health, Ch.7 p.93.

Antiperpetic

EC50=>10 ug/ml

Kroes, B.H., et al. 1991. Anti-Inflammatory Activity of Gallic Acid. Planta Medica, 58(6): 499.

Antiinflammatory

Antileishmanic

EC50=4.4 ug/ml

Economic & Medicinal Plant Research, 6: 235.

Antimutagenic

Antinitrosaminic

Economic & Medicinal Plant Research, 1: 53.

Antioxidant IC44=33 ppm

Antioxidant 7 x quercetin

Antioxidant 2/3 BHA

Antiperiodontic 10 ug/ml

Antiperoxidant

IC50=69 uM

Economic & Medicinal Plant Research, 5: 194.

Antipolio

Economic & Medicinal Plant Research, 5: 194.

Antiproteolytic 10 ug/ml

Antiradicular 7 x quercetin

Economic & Medicinal Plant Research, 5: 194.

Antiradicular IC50=4.9 uM

Williamson, E. M. and Evans, F. J. Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.

Antistaphylococcal MIC=1,000 ug/ml

Economic & Medicinal Plant Research, 5: 194.

Antitumor

Antitumor-Promoter

Antiviral

Apoptotic

Williamson, E. M. and Evans, F. J. Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.

Bacteristat

Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. Phytotherapy Research 4(5): 198.

Bronchodilator

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Candidicide

Carcinogenic

Choleretic

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Cyclooxygenase-Inhibitor

Economic & Medicinal Plant Research, 5: 194.

Cytotoxic 500 uM

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Floral-Inhibitor

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Gram(+)-icide MIC=1,000 ug/ml

Economic & Medicinal Plant Research, 5: 194.

Gram(-)-icide MIC=1,000 ug/ml

Economic & Medicinal Plant Research, 5: 194.

Hemostat

Economic & Medicinal Plant Research, 5: 194.

Hepatoprotective

Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.

Immunomodulator

McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.

Immunostimulant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Immunosuppressant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Insulin-Sparing

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

pp.

NO-Inhibitor IC-
26=250 uM

Nephrotoxic Martindale's 29th

Pesticide

Styptic

Topoisomerase-I-
Inhibitor

Hamada, S. I., Kataoka, T., Woo, J. T., Yamada, A., Yoshida, T., Nishimura, T., Otake, N., Nagai, K. 1997. Immunosuppressive Effects by Gallic Acid and Chebulagic Acid on CTL-Mediated Cytotoxicity. *Biol Pharm Bull*, 20: 1017-1019.

Xanthine-Oxidase-
Inhibitor IC50=24 uM

Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. *Chem. Pharm. Bull.* 38(5): 1224-1229

GAMMA-TERPINENE

Plant 36.0 5460.0 1.69 *

Activities (11)

ACE-Inhibitor 100 ug/ml
(weak activity)

Acaricide

Aldose-Reductase-
Inhibitor 100 ug/ml

Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. *Toyama-Ken Yakuji Kenkyusho Nenpo*, (20): 95-101.

Antiacetylcholinesterase
IC23=1.2 mM

Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Antifeedant

Jim Duke's personal files.

FFlavor FEMA 1-40

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Insectifuge

Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Irritant

Zebovitz, T. C. Ed. 1989. Part VII. *Flavor and Fragrance Substances*, in Keith L. H. and Walters, D.B., eds. *Compendium of Safety Data Sheets for Research and Industrial Chemicals*. VCH Publishers, New York. 3560-4253.

Perfumery

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

GAMMA-TERPINENE

Essential Oil 17800.0 49500.0 -0.15 *

Activities (11)

ACE-Inhibitor 100 ug/ml
(weak activity)

Acaricide

Aldose-Reductase-
Inhibitor 100 ug/ml

Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. *Toyama-Ken Yakuji Kenkyusho Nenpo*, (20): 95-101.

Antiacetylcholinesterase
IC23=1.2 mM

Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Antifeedant

Jim Duke's personal files.

FFlavor FEMA 1-40

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Insectifuge

Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. *Hager's Handbuch der Pharmazeutischen Praxis*, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Irritant

Zebovitz, T. C. Ed. 1989. Part VII. *Flavor and Fragrance Substances*, in Keith L. H. and Walters, D.B., eds. *Compendium of Safety Data Sheets for Research and Industrial Chemicals*. VCH Publishers, New York. 3560-4253.

Perfumery

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

GAMMA-TERPINEOL

Plant -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

GAMMA-TERPINEOL

Essential Oil -- -- *

GENKWANIN

Leaf -- 43.0 *

Activities (3)

Antibacterial Recio, M. C., Rios, J. L., and Villar, A., A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, *Phytotherapy Research*, 3(4), 1989, 117-125.

Pesticide

Purgative

GERANIOL

Plant -- 10660.0 1.38 *

Activities (35)

Allergenic

Madaus, G. 1976. *Lehrbuch der Biologischen Hilfsmittel*. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.

Anthelmintic
Antibacterial
MIC=400 ug/ml

Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. *J. Agric. Food Chem.* 41: 1102-1105.

Antibacterial MIC=64
ug/ml

Antibacterial
MBC=800 ug/ml

Anticariogenic MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antimelanomic IC50=150 uM/l	
Antisalmonella MIC=400 ug/ml	
Antiseptic 7 x phenol	Wagner & Wolff, eds. 1977. <i>New Natural Products</i> (RS164. I56. 176)
Antiseptic MIC=64 ug/ml	
Antiseptic 400-800 ug/ml	
Antispasmodic	Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (<i>Flores Graminis</i> , <i>Graminis Flos</i>) used in Aromatherapy. <i>J. Ess. Oil Res.</i> , 2: 185-191, 1990.
Antitubercular MIC=64 ug/ml	
Antitumor	Yu, S.G., Anderson, P.J., and Elson, C.E. 1995. Efficacy of B-Ionone in the Chemoprevention of Rat Mammary Carcinogenesis. <i>J. Agric. Food Chem.</i> 43: 2144-2147.
Antitumor (Pancreas) IC50=265 uM	
Ascaricide	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
CNS-Stimulant	List, P.H. and Horhammer, L., Hager's <i>Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Embryotoxic	
Emetic 3 x ipecac	Lawrence Review of Natural Products, Sep-97.
Expectorant	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
FLavor FEMA 1-10	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry
Fungicide IC93=2 mM	Lydon, J. & Duke, S., <i>The potential of pesticides from plants</i> , pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Herbicide IC100-2,000 uM	Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds</i> . (<i>Handbook of Natural Toxins</i> Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge 50 ppm	
Insectiphile	Merck 11th Edition
Mycobactericide MIC=64 ug/ml	
Nematicide IC86=100 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.
Nematicide MLC=1,000 ug/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Merck 11th Edition
Pesticide	
Sedative	
Trichomonicide LD100=300 ug/ml	

GERANIOL

Essential Oil -- -- *

Activities (35)

Allergenic	
Anthelmintic	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antibacterial MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antibacterial MIC=64 ug/ml	
Antibacterial MBC=800 ug/ml	
Anticancer (Pancreas) IC50=265 uM	
Anticariogenic MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . <i>J. Agric. Food Chem.</i> 41: 1102-1105.
Antimelanomic IC50=150 uM/l	
Antisalmonella MIC=400 ug/ml	
Antiseptic 7 x phenol	Wagner & Wolff, eds. 1977. <i>New Natural Products</i> (RS164. I56. 176)
Antiseptic MIC=64 ug/ml	
Antiseptic 400-800 ug/ml	
Antispasmodic	Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (<i>Flores Graminis</i> , <i>Graminis Flos</i>) used in Aromatherapy. <i>J. Ess. Oil Res.</i> , 2: 185-191, 1990.
Antitubercular MIC=64 ug/ml	
Antitumor	Yu, S.G., Anderson, P.J., and Elson, C.E. 1995. Efficacy of B-Ionone in the Chemoprevention of Rat Mammary Carcinogenesis. <i>J. Agric. Food Chem.</i> 43: 2144-2147.
Antitumor (Pancreas) IC50=265 uM	
Ascaricide	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
CNS-Stimulant	List, P.H. and Horhammer, L., Hager's <i>Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Candidicide	
Embryotoxic	
Emetic 3 x ipecac	Lawrence Review of Natural Products, Sep-97.
Expectorant	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
FLavor FEMA 1-10	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide IC93=2 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Herbicide IC100-2,000 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge 50 ppm	
Insectiphile	Merck 11th Edition
Mycobactericide MIC=64 ug/ml	
Nematicide IC86=100 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Nematicide MLC=1,000 ug/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Merck 11th Edition
Pesticide	
Sedative	
Trichomonicide LD100=300 ug/ml	

GERANYL-ACETATE	Plant	--	3380.0	3.51	*
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Activities (5)

Allergenic	
FLavor FEMA 1-20	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Insectiphile	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Sedative	Jim Duke's personal files.

GERMACRONE	Essential Oil	--	--	*
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Activities (7)

Analgesic	
Antiedemic	
Antiinflammatory	
Antistress	
Antitussive	
Antiulcer	
Hypothermic	

GLYCINE	Plant	--	--	Stitt, Paul. Why George should eat broccoli.
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Activities (12)

Antiacid	Martindale's 29th
Antialdosteronic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antidote (Hypoglycin-A)	Martindale's 29th
Antiencephalopathic	Martindale's 29th
Antigastritic	Martindale's 29th
Antiprostatic 125-250 mg 3 x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antipruritic	Merck 11th Edition
Antisickling	Ekeke, G.J. and Shode, F.O. 1988. Phenylalanine is the Predominant Antisickling Agent in Cajanus cajan Seed Extract. <i>Planta Medica</i> 56(1): 41, 1990.
Antiulcer	Martindale's 29th
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Neuroinhibitor	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Uricosuric	

HEX-5-EN-1-OL	Essential Oil	--	--	*
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IRON	Leaf	25.0	147.0	-0.55	*
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Activities (6)

Antikathartic	Martindale's 29th
Antianemic	Martindale's 29th
Anticancer	
Anticheilitic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antimennorrhagic 100	Pizzorno, J.F. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington

Prooxidant

IRON	Plant	1075.0	1508.0	1.04	USDA's Ag Handbook 8 and sequelae)
Activities (6)					
Antiakathistic	Martindale's 29th				
Antianemic	Martindale's 29th				
Anticancer					
Anticheilitic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
Antimennorrhaic 100 mg/day/wmn/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).				
Prooxidant					
ISOBORNEOL	Essential Oil	--	--	*	
Activities (7)					
Antiherpetic 600 ppm					
Antiviral 600 ppm					
Insectifuge					
Motor-Stimulant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
Pesticide					
Sedative					
ISOCHLOROGENIC-ACID	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Activities (4)					
Antioxidant	Phenolic Compounds in Food and Their Effects on Health, 64.				
Antiseptic	J. Nat. Prod. 46(5).				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Pesticide					
ISOCHLOROGENIC-ACID	Shoot	--	--	*	
Activities (4)					
Antioxidant	Phenolic Compounds in Food and Their Effects on Health, 64.				
Antiseptic	J. Nat. Prod. 46(5).				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Pesticide					
ISOEUGENOL	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
Activities (16)					
Allergenic					
AntiTNF					
Antiaggregant IC50=0.72 uM	Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. <i>Phytotherapy Research</i> 4(3): 93, 1990.				
Antiinflammatory					
Antioxidant IC79=30 ppm					
Antitumor					
Bacteristat					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Candidistat					
Cytotoxic 25 ug/ml	Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. <i>Phytotherapy Research</i> 4(3): 93, 1990.				
Fungistat 100 ug/ml	Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. <i>Phytotherapy Research</i> 4(3): 93, 1990.				
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Motor-Stimulant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Pesticide					
Sedative	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Trichomonistat IC50=10 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.				

Activities (3)

Antinecephalopathic?	Martindale's 29th
Antipellagric	Martindale's 28th
Essential	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

ISOTHYMONIN

Plant

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*

Activities (4)

Antiinflammatory	IC~37=1,000 uM
Antioxidant	10 uM
COX-1-Inhibitor	IC37=1,000 uM
COX-2-Inhibitor	IC>37=1,000 uM

KAEMPFEROL

Plant

--

--

Stitt, Paul. Why George should eat broccoli.

Activities (75)

11B-HSD-Inhibitor	
5-Lipoxygenase-Inhibitor	IC50 (uM)=20
Aldose-Reductase-Inhibitor	100 uM
Oliveira, T. T., Nagem, T. J., Miranda, L. C. G., Paula, V. F., Teixeira, M. A. 1997. Inhibitory Action on Aldose Reductase by Soybean Flavonoids. <i>J Braz Chem Soc</i> , 8(3): 211-213.	
Antiaflatoxin	IC50=8.73 uM
Antiaflatoxin	IC50=3.28 ppm
Antiaggregant	30 uM
Antiallergic	
Antibacterial	20 ug/ml
Anticancer	
Antifertility	250 mg/kg/day/60 days/orl rat
Kumar, P., Dixit*, V.P., and Khanna, P. Antifertility Studies of Kaeempferol: Isolation and Identification from Tissue Culture of some Medicinally Important Plant Species. <i>Plantes medicinales et phytotherapie</i> , 23: 193-201, 1989.	
Antigingivitic	20 ug/ml
Antiperiheritic	23-92 ug/ml
Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. <i>J. of Natural Products</i> 55(12):1732-1740, 1992.	
Antihistaminic	
Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.	
Antiimplantation	
Antiinflammatory	20 mg/kg
Antiinflammatory	200 mg/kg ipr rat
Antileukemic	IC50=3.1 ug/ml
Life Sciences	55: 1061.
Antilymphocytic	
Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.	
Antimutagenic	ID50=10-40 nM
Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.	
Antioxidant	IC50=40 uM
Antioxidant	3/4 quercetin
Antioxidant	IC50=1.2 ug/ml
Antiperiodontic	20 ug/ml
Antiplaque	20 ug/ml
Antiradicular	7 x quercetin
Antiseptic	20 ug/ml
Antiserotonin	200 mg/kg ipr rat
Antispasmodic	
Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.	
Antistaphylococic	
Antitumor	
Antitumor-Promoter	
Yasukawa, K., Takido, M., Takeuchi, M., Sato, Y., Nitta, K., and Nakagawa, S. 1989. Inhibitory Effects of Flavonol Glycosides on 12-O-Tetradecanoylphorbol-13-acetate-Induced Tumor Promotion. <i>Chem. Pharm. Bull.</i> 38(3): 774-776, 1990.	
Antilulcer	50-200 mg/kg ipr rat
Antiviral	23-92 ug/ml
Apoptotic	60 uM
Aromatase-Inhibitor	IC12=1 uM/l
Journal of Medicinal Food	2: 235.1999.
COX-2-Inhibitor	
Cancer-Preventive	
Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.	
Carcinogenic	
Hutchings, A, Scott, AH, Lewis, G, and Cunningham, A. 1996. Zulu Medicinal Plants. An inventory. University of Natal Press, Pietermaritzburg. 450 pp.	

Copper-Chelator	
Cyclooxygenase-Inhibitor IC50 (uM) =20	
Cytotoxic	
Diaphoretic?	Lawrence Review of Natural Products, Dec-90.
Diuretic	
Estrogenic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
Estrogenic EC50=0.56 uM	
Fungicide 20 ug/ml	Father Nature's Farmacy: The aggregate of all these three-letter citations.
HIV-RT-Inhibitor IC50=50-150 ug/ml	Garcia, J., Morin,* C., Nyasse, B., Sondengam, B-L., Tchouankeu, J-C., and Tsamo, E. Complete Structural Assignments Of An Ergosterol Derivative From <i>Entandrophragma utile</i> . Journal of Natural Products, 54(1): 136-142, 1991.
Hepatoprotective IC50=5.46 uM	
Hepatoprotective IC50=1.30 ppm	
Hypotensive	
ICAM-1-Inhibitor	
Inotropic	
Iodothyronine-Deiodinase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
JNK-Inhibitor	
Lipoxygenase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
MAO-Inhibitor	
Mutagenic	
NO-Inhibitor IC50=13.9 uM	
Natriuretic	
Neuroprotective	
PAF-Inhibitor	
Pesticide	
Protisticide	Meckes, M., Calzada, F., Tapia-Contreras, A., Cedillo-Rivera, R. 1999. Antiprotozoal Properties of <i>Helianthemum glomeratum</i> . Phytotherapy Research, 13(2): 102-105.
Quinone-Reductase-Inducer 3 uM	
TNF-alpha-Inhibitor IC50=3.99 uM	
Teratologic	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. Toxicol Ind Health, 14: 223-237.
Topoisomerase-II-Inhibitor IC50=8.1 ug/ml	Constantinou, A., Mehta, R., Runyan, C., Rao, K., Vaughan, A., Moon, R. 1995. Flavonoids as DNA Topoisomerase Antagonists and Poisons: Structure-Activity Relationships. J Natural Products, 58: 217-225.
Tyrosinase-Inhibitor ID50=230 uM	
Uterotrophic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
Vasodilator	
cAMP-Phosphodiesterase-Inhibitor	
iNOS-Inhibitor IC50=<15 uM	
iNOS-Inhibitor IC50=13.9 uM	

KILOCALORIES	Leaf	--	2990.0	-0.05	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
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L-BORNEOL	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
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LABIATIC-ACID	Leaf	--	--	*	
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Activities (1)

Antioxidant Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

LAURIC-ACID	Plant	2300.0	2484.0	-0.36	USDA's Ag Handbook 8 and sequelae)
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Activities (7)

Antibacterial

Antioxidant IC71=60

Antiviral

COX-1-Inhibitor IC40=100

COX-2-Inhibitor IC20=100

Candidicide

LEUCINE	Plant	4300.0	4644.0	-0.94	USDA's Ag Handbook 8 and sequelae)
Activities (2)					
Antiecephalopathic	Martindale's 29th				
Essential Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.					
LIMONENE	Plant	15.0	5200.0	2.71	*
Activities (60)					
AChE-Inhibitor					Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. & Physiol.</i> , 23, 1985, 383-8.
Acaricide LC100=8 uM					
Allelochemic					
Allergenic 1/20th carene					
Antiacylcholinesterase IC22-26=1.2 mM					
Antiadenomic					
Antialzheimeran?					Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. & Physiol.</i> , 23, 1985, 383-8.
Antiasthmatic					
Antibacterial					Revista Itiliana Eppos, 12: 5, 1994.
Anticancer					
Antiesophagitic					
Antifeedant					
Antiflu					Economic & Medicinal Plant Research, 5: 195.
Antiinflammatory					
Antilithic					
Antilymphomtic					
Antimetastatic (Stomach)					
Antimutagenic					Economic & Medicinal Plant Research, 6: 235.
Antiobesity					
Antiseptic					
Antispasmodic ED50=0.197 mg/ml					Fitoterapia No.59-1984.
Antitumor					
Antitumor (Breast)					
Antitumor (Colon)					
Antitumor (Pancreas)					
Antitumor (Prostate)					
Antitumor (Stomach)					
Antiviral					
Apoptotic					
Bronchoprotectant					
Cancer-Preventive					Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidstat					
Chemopreventive					
Cholesterolytic					
Detoxicant					
Enterococontractant					J. Aromatherapy 4: 22.
Expectorant					
FLavor					
Fungiphilic					J. Agric. Food Chem. 43: 2283.
Fungistat					
GST-Inducer					
Herbicide IC50=45 uM					Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)</i> Marcel Dekker, Inc. NY. 665 pp.
Histaminic					
Immunomodulator					
Insecticide 0.37 uM/fly					
Insectifuge					Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Interleukin-6-Inhibitor					
Irritant					
Lipolytic					
Myorelaxant 50 mg/kg					
NO-Genic					
Nematicide IC=100 ug/ml					Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.
Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet)					

P450-Inducer

Peristaltic

Pesticide

Photosensitizer

Sedative ED=1-32 mg/kg

Transdermal

Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.

Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)

LIMONENE

Essential Oil -- 5300.0 -0.71 *

Activities (60)

AChE-Inhibitor

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.

Acaricide LC100=8 uM

Allelochemical

Allergenic 1/20th carene

Antiacylcholinesterase IC22-26=1.2 mM

Antiademonic

Antialzheimeran?

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.

Antiasthmatic

Antibacterial

Anticancer

Antiesophagitic

Antifeedant

Antiflu

Economic & Medicinal Plant Research, 5: 195.

Antiinflammatory

Antilithic

Antilymphomic

Antimetastatic (Stomach)

Antimutagenic

Economic & Medicinal Plant Research, 6: 235.

Antioesity

Antiseptic

Antispasmodic ED50=0.197 mg/ml

Fitoterapia No.59-1984.

Antitumor

Antitumor (Breast)

Antitumor (Colon)

Antitumor (Pancreas)

Antitumor (Prostate)

Antitumor (Stomach)

Antiviral

Apoptotic

Bronchoprotectant

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Candidstat

Chemopreventive

Cholesterolytic

Detoxicant

Enterococontractant

J. Aromatherapy 4: 22.

Expectorant

FLavor

Fungiphilic

J. Agric. Food Chem. 43: 2283.

Fungistat

GST-Inducer

Herbicide IC50=45 uM

Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Histaminic

Immunomodulator

Insecticide 0.37 uM/fly

Insectifuge

Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Interleukin-6-Inhibitor

Irritant

Lipolytic

Myorelaxant 50 mg/kg

NO-Genic

Nematicide IC=100 ug/ml

Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.

Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet)

Ozone-Scavenger

Peristaltic					
Pesticide					
Photosensitizer	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.				
Sedative ED=1-32 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Transdermal					
LINALOL	Plant	20.0	17420.0	3.51	*
LINALOOL	Plant	20.0	17420.0	1.69	*
Activities (53)					
Acaricide C90=<15 ul/l (=<15 ppm)					
Allergenic					
Analgesic					
Anesthetic 0.01-1 ug/ml					
Antiacyetylcholinesterase					
Antiallergic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antianaphylactic					
Antibacterial MIC=1,600 ug/ml					
Anticariogenic MIC=1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. <i>J. Agric. Food Chem.</i> 41: 1102-1105.				
Anticolic					
Anticonvulsant 200 mg/kg ipr mus					
Antiedemic					
Antiglutamaergic					
Antihistaminic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antiinflammatory					
Antileukemic IC50=3.5-4.2 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.				
Antilymphomeric IC50=3.5-4.2 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.				
Antimange					
Antimite					
Antimutagenic					
Antiseptic 5 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Antishock	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antispasmodic	Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (<i>Flores Graminis</i> , <i>Graminis Flos</i>) used in Aromatherapy. <i>J. Ess. Oil Res.</i> , 2: 185-191, 1990.				
Antiviral					
Barbituate-Synergist					
Bronchorelaxant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
CNS-Depressant					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Candidstat					
Carminative					
Culicide LC50=156-194 mg/l					
Cytotoxic					
Expectorant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
FLavor FEMA 2-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide	Acta Botanica Sinica, 32: 49.				
GABA-nergic					
Hypnotic					
Hypothermic					
Insecticide LC50=156-194 mg/l					
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Irritant	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Larvicide LC50=156-194 mg/l					
Mosquitofuge > Deet					
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances, Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
Perfumery	Merck 11th Edition				
Pesticide					
Prooxidant	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.				
Sedative ED=1-32 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Sedative 200 mg/kg ipr mus (1% as active as diazepam)					

Trichomonicide LD100=600
ug/ml

Tumor-Promoter

LINALOOL	Essential Oil	28200.0	42800.0	-0.39	*
Activities (53)					
Acaricide C90=<15 ul/l (=<15 ppm)					
Allergenic					
Analgesic					
Anesthetic 0.01-1 ug/ml					
Antiacyetylcholinesterase					
Antiallergic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antianaphylactic					
Antibacterial MIC=1,600 ug/ml					
Anticariogenic MIC=1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.				
Anticolic					
Anticonvulsant 200 mg/kg ipr mus					
Antiedemic					
Antiglutamaergic					
Antihistaminic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antiinflammatory					
Antileukemic IC50=3.5-4.2 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.				
Antilymphomeric IC50=3.5-4.2 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.				
Antimange					
Antimite					
Antimutagenic					
Antiseptic 5 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Antishock	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
Antispasmodic	Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdin, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (<i>Flores Graminis</i> , <i>Graminis Flos</i>) used in Aromatherapy. J. Ess. Oil Res., 2: 185-191, 1990.				
Antiviral					
Barbituate-Synergist					
Bronchorelaxant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
CNS-Depressant					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Candidstat					
Carminative					
Culicide LC50=156-194 mg/l					
Cytotoxic					
Expectorant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.				
FLavor FEMA 2-40	Aloe Research Council - Duke write up of non-peer reviewd book by Coats and draft by Henry				
Fungicide	Acta Botanica Sinica, 32: 49.				
GABA-nergic					
Hypnotic					
Hypothermic					
Insecticide LC50=156-194 mg/l					
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Irritant	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Larvicide LC50=156-194 mg/l					
Mosquitofuge > Deet					
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances, Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Biöactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
Perfumery	Merck 11th Edition				
Pesticide					
Prooxidant	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.				
Sedative ED=1-32 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Sedative 200 mg/kg ipr mus (1% as active as diazepam)					
Termitifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Trichomonicide LD100=600 ug/ml					
Tumor-Promoter					

Activities (7)

Anesthetic 0.01-1 ug/ml	
Antioxidant 400 ppm	
Antispasmodic ED50=0.21 mg/ml	Fitoterapia No.59-1984.
FLavor FEMA 2-15	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances, Chap.12 in Teranishi,R, Butterly,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Perfumery	Merck 11th Edition
Sedative	

LINOLEIC-ACID

Seed

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ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities (27)

5-Alpha-Reductase-Inhibitor	
AntiMS	Economic & Medicinal Plant Research, 6: 189.
Antiacne	
Antialopeptic	
Antianaphylactic	Economic & Medicinal Plant Research, 6: 189.
Antiandrogenic	
Antiarteriosclerotic	
Antiarthritic	Economic & Medicinal Plant Research, 6: 189.
Anticorony	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antieczemic	Economic & Medicinal Plant Research, 6: 189.
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antigranular	
Antihistaminic	Economic & Medicinal Plant Research, 6: 189.
Antiinflammatory IC50=31 uM	
Antileukotriene-D4 IC50=31 uM	
Antimenorrhagic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiprostatic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic	Science News, 146: 421.
Comedolytic	
Hepatoprotective	
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Immunomodulator	Economic & Medicinal Plant Research, 6: 189.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Metastatic	Science News, 146: 421.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Propeptic	

LINOLEIC-ACID

Plant

5000.0

5400.0

-0.5

USDA's Ag Handbook 8 and sequelae)

Activities (27)

5-Alpha-Reductase-Inhibitor	
AntiMS	Economic & Medicinal Plant Research, 6: 189.
Antiacne	
Antialopeptic	
Antianaphylactic	Economic & Medicinal Plant Research, 6: 189.
Antiandrogenic	
Antiarteriosclerotic	
Antiarthritic	Economic & Medicinal Plant Research, 6: 189.
Anticorony	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antieczemic	Economic & Medicinal Plant Research, 6: 189.
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antigranular	
Antihistaminic	Economic & Medicinal Plant Research, 6: 189.
Antiinflammatory IC50=31 uM	
Antileukotriene-D4 IC50=31 uM	
Antimenorrhagic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic	Science News, 146: 421.
Comedolytic	
Hepatoprotective	
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Immunomodulator	Economic & Medicinal Plant Research, 6: 189.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Metastatic	Science News, 146: 421.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Propecic	
 LINOENIC-ACID	
	Seed -- --
	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
 LITHIUM	
	Plant -- 4.0 1.0
	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Activities (11)	
AntiPMS	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidepressant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antihyperthyroid	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antimanic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antipsychotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antischizophrenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiviral	
Cholinergic	
Deliriant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Natriuretic	
Nephrotoxic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
 LITHOSPERMIC-ACID	
	Shoot -- -- *
Activities (3)	
Antigonadotropic	Jim Duke's personal files.
Antithyroid	Jim Duke's personal files.
Cardiotonic	
 LUTEOLIN	
	Leaf -- -- *
Activities (78)	
Aldose-Reductase-Inhibitor EC=3 ppm	Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. Fitoterapia 64(2): 130, 1993.
Aldose-Reductase-Inhibitor IC50=0.45 uM rat	
AntiHIV	
Antiallergic	
Antiangiogenic IC60-75=10 ⁷ uM	
Antiatherogenic	
Antibacterial MIC=500 ug/ml	Planta Medica, 57: A43, 1991.
Anticarcinogenic	
Anticarcinomic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Anticataract EC=3 ppm	Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. Fitoterapia 64(2): 130, 1993.
Anticomplementary	
Antidermatic	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Antiestrogenic	
Antifeedant IC50=<1,000 ppm diet	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Antiherpetic 11-23 ug/ml	
Antihistaminic <10-15 uM	
Antiinflammatory #NAME?	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Antileukemic 20-50 uM	
Antilymphomeric	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antimelanomic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antimutagenic ID50=2-5 nM	
Antimutagenic ID50=0.44 ug/ml	

Antioxidant IC50=10 uM	
Antipolio	Economic & Medicinal Plant Research, 5: 197.
Antiproliferant	
Antispasmodic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antitumor 1-50 uM	
Antitumor (Colon)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Kidney)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Lung)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Ovary)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Pancreas)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Skin) 20 uM	
Antitumor (Stomach)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Thyroid) 12-50 uM	
Antitumor (brain)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitussive	
Antiviral 11-23 ug/ml	
Aphidifuge	
Apoptotic 12-50 uM	
Aromatase-Inhibitor IC35=1 uM/l	Journal of Medicinal Food 2: 235.1999.
Beta-Glucuronidase-Inhibitor IC50=~40 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	
Chemopreventive	
Choleretic	
Cytotoxic 1-50 uM	
Deiodinase-Inhibitor	Jim Duke's personal files.
Differentiator IC>40=40 uM	
Diuretic	Jim Duke's personal files.
Estrogenic 58% genistein	
Hepatoprotective	
Hyaluronidase-Inhibitor IC50+=100-250 uM	
Hypocholesterolemic	
ICAM-1-Inhibitor	
IKK-Inhibitor	
Iodothyronine-Deiodinase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Lipoxygenase-Inhibitor	
MAPK-Inhibitor	
MMP-9-Inhibitor 20 uM	
Metalloproteinase-Inhibitor	
Myorelaxant	
NEP-Inhibitor IC50=>42 uM	
NF-kB-Inhibitor	
NO-Inhibitor	
PTK-Inhibitor 10-100 uM	
Pesticide	
Proliferant	
Prostaglandin-Synthetase-Inhibitor	
Protein-Kinase-C-Inhibitor IC70=50 uM	
Succinoxidase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
TNF-alpha-Inhibitor IC50=14.44 uM	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. Toxicol Ind Health, 14: 223-237.
VEGF-Inhibitor IC50=2-7 uM	
Vasodilator	
Xanthine-Oxidase-Inhibitor IC50=0.11 ug/ml	Chem. & Pharm. Bull. 38: 1772.
iNOS-Inhibitor	

Activities (78)

Aldose-Reductase-Inhibitor EC=3 ppm	Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. <i>Fitoterapia</i> 64(2): 130, 1993.
Aldose-Reductase-Inhibitor IC50=0.45 uM rat	
AntiHIV	
Antiallergic	
Antiangiogenic IC60-75=10 uM	
Antiatherogenic	
Antibacterial MIC=500 ug/ml	Planta Medica, 57: A43, 1991.
Anticarcinogenic	
Anticarcinomic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Anticataract EC=3 ppm	Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. <i>Fitoterapia</i> 64(2): 130, 1993.
Anticomplementary	
Antidermatic	Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals</i> . CRC Press. Boca Raton, FL. 566 pp.
Antiestrogenic	
Antifeedant IC52=<1,000 ppm diet	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Antiherpetic 11-23 ug/ml	
Antihistaminic <10-15 uM	
Antiinflammatory #NAME?	Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Antileukemic 20-50 uM	
Antilymphomeric	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antimelanomeric	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antimutagenic ID50=2-5 nM	
Antimutagenic ID50=0.44 ug/ml	
Antinociceptive	
Antioxidant IC50=10 uM	
Antipolio	Economic & Medicinal Plant Research, 5: 197.
Antiproliferant	
Antispasmodic	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antitumor 1-50 uM	
Antitumor (Colon)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Kidney)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Lung)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Ovary)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Pancreas)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Skin) 20 uM	
Antitumor (Stomach)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Thyroid) 12-50 uM	
Antitumor (brain)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitussive	
Antiviral 11-23 ug/ml	
Aphidifuge	
Apoptotic 12-50 uM	
Aromatase-Inhibitor IC35=1 uM/l	Journal of Medicinal Food 2: 235.1999.
Beta-Glucuronidase-Inhibitor IC50=~40 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	
Chemopreventive	
Choleretic	
Cytotoxic 1-50 uM	
Deiodinase-Inhibitor	Jim Duke's personal files.
Differentiator IC>40=40 uM	
Diuretic	Jim Duke's personal files.

Hepatoprotective	
Hyaluronidase-Inhibitor	IC50+=100-250 uM
Hypocholesterolemic	
ICAM-1-Inhibitor	
IKK-Inhibitor	
Iodothyronine-Deiodinase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Lipoxygenase-Inhibitor	
MAPK-Inhibitor	
MMP-9-Inhibitor	20 uM
Metalloproteinase-Inhibitor	
Myorelaxant	
NEP-Inhibitor	IC50=>42 uM
NF-kB-Inhibitor	
NO-Inhibitor	
PTK-Inhibitor	10-100 uM
Pesticide	
Proliferant	
Prostaglandin-Synthetase-Inhibitor	
Protein-Kinase-C-Inhibitor	IC70=50 uM
Succinoxidase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
TNF-alpha-Inhibitor	
IC50=14.44 uM	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. <i>Toxicol Ind Health</i> , 14: 223-237.
VEGF-Inhibitor	IC50=2-7 uM
Vasodilator	
Xanthine-Oxidase-Inhibitor	Chem. & Pharm. Bull. 38: 1772. IC50=0.11 ug/ml
INOS-Inhibitor	

LUTEOLIN-7-DIGLUCOSIDE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
LUTEOLIN-7-O-BETA-D-D1-GLUCOSIDE	Plant	--	--	*	
LUTEOLIN-7-O-BETA-D-GLUCOSIDE	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
LYSINE	Plant	2070.0	2236.0	-0.98	USDA's Ag Handbook 8 and sequelae)

Activities (4)

Antialkalotic	Martindale's 29th
Antiherpetic 0.5-3 g/day	
Essential	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hypoarginanemic 250 mg/kg	Martindale's 29th

MAGNESIUM	Plant	1630.0	2992.0	-0.33	USDA's Ag Handbook 8 and sequelae)
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Activities (65)

AntiCFS	
AntiLyme 400-1,000 mg	
AntiMS	
AntiPMS 400-800 mg/day/wmn/orl	
AntiPMS 400-800 mg/day/wmn orl	
AntiRaynaud's 280-350 mg/day	
Antiaggregant 400 mg/day	
Antialcoholic	
Antianginal 400 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antianorectic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antianxiety 400 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiarrhythmic 400 mg/day	
Antiarthritic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiesthmatic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antithrombotic 400 mg/day	

Anticlimacteric 500-750 mg/day	
Anticonvulsant	Facciola, S. 1998. <i>Cornucopia - A Source Book of Edible Plants</i> . Kampong Publications, Vista CA. 713 pp.
Anticorony 400 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reservse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antidepressant	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antidiabetic 400-800 mg/man/day	
Antidysmenorrheic 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiedometriotic 500 mg/day	
Antienterotic	
Antiepileptic 450 mg/day	
Antifatigue	
Antifibromyalgic 200-300 mg 3x/day	
Antigastrotic	
Antiglaucomic	
Antihyperkinetic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antihypertensive	
Antihypoglycemic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiinflammatory 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiinsomniac	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antilithic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimastalgic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimenopausal 500-750 mg/day	
Antimigraine 200 mg/day/man	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antimiral-valve-prolapse	
Antinephrolytic	
Antineurotic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antosteoporotic 500-1,000 mg/day/wmn/orl	
Antiplaque 500-1,000 mg/day	
Antiretinopathic 400 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reservse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antispasmodic	
Antispasmophilic 500 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antistress 500-750 mg/day	
Antistroke 400 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reservse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antisyndrome-X 400 mg/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reservse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Anxiolytic 500-750 mg/day	
CNS-Depressant	Facciola, S. 1998. <i>Cornucopia - A Source Book of Edible Plants</i> . Kampong Publications, Vista CA. 713 pp.
Calcium-Antagonist	
Cardioprotective	
Diuretic	
Hypocholesterolemic 400 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Hypotensive 260-500 mg/day	
Immunomodulator	
Insulinogenic 400 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reservse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Laxative 300-500 mg/day	
Litholytic	
Myorelaxant 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Neurotransmitter	
Tranquilizer 500-750 mg/day	
Uterorelaxant 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Vasodilator	

MAGNESIUM Leaf 733.0 4360.0 0.09 *

Activities (65)

AntiCFS
AntiLyme 400-1,000 mg
AntiMS
AntiPMS 400-800 mg/day/wmn/orl
AntiPMS 400-800 mg/day/wmn orl

mg/day

Antiaggregant 400 mg/day	
Antialcoholic	
Antiangular 400 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antianorectic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antianxiety 400 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiarrhythmic 400 mg/day	
Antiarthritic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiasthmatic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antithrombotic 400 mg/day	
Antithrombotic 400 mg/day	
Anticephalitic	
Anticlimacteric 500-750 mg/day	Facciola, S. 1998. <i>Cornucopia - A Source Book of Edible Plants</i> . Kampong Publications, Vista CA. 713 pp.
Anticonvulsant	
Anticoronal 400 mg/day	Chaleem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antidepressant	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antidiabetic 400-800 mg/man/day	
Antidysmenorrheic 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiedometriotic 500 mg/day	
Antienterotic	
Antiepileptic 450 mg/day	
Antifatigue	
Antifibromyalgic 200-300 mg 3x/day	
Antigastrotic	
Antiglaucomic	
Antihyperkinetic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antihypertensive	
Antihypoglycemic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antinflammatory 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiinsomniac	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antilithic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimastalgic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimenopausal 500-750 mg/day	
Antimigraine 200 mg/day/man	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antimital-valve-prolapse	
Antinephrolytic	
Antineurotic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antosteoporotic 500-1,000 mg/day/wmn/orl	
Antiplaque 500-1,000 mg/day	
Antiretinopathic 400 mg/day	Chaleem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antispasmodic	
Antispasmophilic 500 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antistress 500-750 mg/day	
Antistroke 400 mg/day	Chaleem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antisyndrome-X 400 mg/man/day	Chaleem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Anxiolytic 500-750 mg/day	
CNS-Depressant	Facciola, S. 1998. <i>Cornucopia - A Source Book of Edible Plants</i> . Kampong Publications, Vista CA. 713 pp.
Calcium-Antagonist	
Cardioprotective	
Diuretic	
Hypocholesterolemic 400 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Hypotensive 260-500 mg/day	
Immunomodulator	
Insulinogenic 400 mg/day	Chaleem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Laxative 300-500 mg/day	
Litholytic	
Myorelaxant 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Neurotransmitter	
Tranquilizer 500-750 mg/day	
Uterorelaxant 100 mg 4 x/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Vasodilator	

MANGANESE	Leaf	1.0	6.4	-0.45	*
Activities (14)					
AntiPMS					
Antialcoholic	Forest H. Nielsen, USDA, Grand Forks, various publications.				
Antianemic	Martindale's 28th				
Antiarthritic					
Antidiabetic 3-5 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.				
Antidiabetic 10-30 mg/man/day					
Antidiscotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antidyskinetic	Martindale's 28th				
Antiepileptic 450 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.				
Antosteoporotic					
Antitotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antioxidant					
Antisyndrome-X 10-30 mg/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95				
Hypoglycemic 10-30 mg/man/day					
MENTHONE	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
Activities (30)					
Acaricide					
Allelopathic					
Analgesic					
Antiacetylcholinesterase IC50=1.4 mM					
Antiaggregant IC50=750					
Antiallergic	J. Food Hyg. Soc. Jap. 33(6): 569.				
Antibacillary MIC=1.25 mg/ml					
Antibacterial MIC=0.625-5 mg/ml					
Antiescherichic MIC=5 mg/ml					
Antihistaminic	J. Food Hyg. Soc. Jap. 33(6): 569.				
Antilisteria MIC=1.25 mg/ml					
Antisalmonella MIC=5 mg/ml					
Antiseptic 2.25 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Antispasmodic ED50=0.044 mg/ml	Fitoterapia No.59-1984.				
Antistaphylococcal MIC=0.625-2.5 mg/ml					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Candidicide MIC=2.5 mg/ml					
Cerebrotoxic orl man	J. Aromatherapy 4: 24.				
Culicide LC50=156-194 mg/l					
FLavor FEMA 5-50	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide					
Insecticide LC50=156-194 mg/l					
Larvicide LC50=156-194 mg/l					
Mutagenic					
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Pesticide					
Psychoactive					
Sedative	Ortiz de Urbina, A.V., Martin*, M.L., Montero, M.J., Moran, A., and San Roman, L. 1988. Sedating and Antipyretic Activity of the Essential Oil of Calamintha sylvatica subsp. Ascendens. Journal of Ethnopharmacology, 25: 165-171, 1989.				
Trichomonicide LD100=600 ug/ml					
METHIONINE	Plant	1370.0	1980.0	-0.0	USDA's Ag Handbook 8 and sequelae)
Activities (15)					
Anticataract	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).				

Antidote (Paracetamol) 10 g/16hr/man/orl	Martindale's 29th
Antieczemic	
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antioxidant	
Antiparkinsonian 1-5 g/day	Werbach, M. 1993. <i>Healing with Food.</i> Harper Collins, New York, 443 pp.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Emetic	Martindale's 29th
Essential	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Glutathionigenic	Martindale's 29th
Hepatoprotective	
Lipotropic	Merck 11th Edition
Urine-Acidifier 200 mg/3x/day/man/orl	Martindale's 28th
Urine-Deodorant	Martindale's 29th

MONOTERPENES	Plant	--	17340.0	*
MYRCENE	Plant	36.0	676.0	0.27

Activities (22)

ACE-Inhibitor 100 ug/ml	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.
Allergenic	
Analgesic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antibacterial	
Anticonvulsant	
Antimutagenic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antinitrosaminic	
Antinociceptive 10-20 mg/kg ipr mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. <i>J. Pharm. Pharmacol.</i> 42: 877-878, 1990.
Antinociceptive 20-40 mg/kg scu mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. <i>J. Pharm. Pharmacol.</i> 42: 877-878, 1990.
Antioxidant	Jim Duke's personal files.
Antispasmodic	Jim Duke's personal files.
Chemopreventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.
FLavor FEMA 0.5-9	Aloe Research Council - Duke write up of non-peer reviewd book by Coats and draft by Henry
Fungicide	Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)</i> Marcel Dekker, Inc. NY. 665 pp.
Hypothermic	
Insectifuge	
Irritant	Zeebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. <i>Compendium of Safety Data Sheets for Research and Industrial Chemicals.</i> VCH Publishers, New York. 3560-4253.
Myorelaxant 100-200 mg/kg	
P450-2B1-Inhibitor IC50=0.14 uM	
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Pesticide	

MYRCENE	Essential Oil	--	17500.0	-0.21	*

Activities (22)

ACE-Inhibitor 100 ug/ml	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.
Allergenic	
Analgesic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antibacterial	
Anticonvulsant	
Antimutagenic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antinitrosaminic	
Antinociceptive 10-20 mg/kg ipr mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. <i>J. Pharm. Pharmacol.</i> 42: 877-878, 1990.
Antinociceptive 20-40 mg/kg scu mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. <i>J. Pharm. Pharmacol.</i> 42: 877-878, 1990.
Antioxidant	Jim Duke's personal files.
Antispasmodic	Jim Duke's personal files.
Chemopreventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Fungicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Hypothermic	
Insectifuge	
Irritant	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Myorelaxant 100-200 mg/kg	
P450-2B1-Inhibitor IC50=0.14 uM	
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	

MYRCENOL-8	Plant	15.0	3900.0	*	
MYRCENOL-8-ACETATE	Plant	15.0	2600.0	*	
MYRISTIC-ACID	Plant	1500.0	1620.0	0.74	USDA's Ag Handbook 8 and sequelae)

Activities (6)

Antioxidant IC71=60	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cosmetic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hypercholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Lubricant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.

N-TRIACONTANE	Plant	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
NARINGENIN	Plant	--	--	*

Activities (56)

11B-HSD-Inhibitor	
Aldose-Reductase-Inhibitor IC25=1 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Aldose-Reductase-Inhibitor IC78=10 uM	Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. <i>Phytochemistry</i> , 23: 1885-1888.
Aldose-Reductase-Inhibitor 100 uM	Oliveira, T. T., Nagem, T.J., Miranda, L. C. G., Paula, V. F., Teixeira, M. A. 1997. Inhibitory Action on Aldose Reductase by Soybean Flavonoids. <i>J Braz Chem Soc</i> , 8(3): 211-213.
Aldose-Reductase-Inhibitor 1 ug/mL	Aida, K., Tawata, M., Shindo, H., Onaya, T., Sasaki, H., Yamaguchi, T., Chin, M.(Chen, Z.), and Mitsuhashi, H. 1989. Isoliquiritigenin: A New Aldose Reductase Inhibitor from Glycyrrhizae Radix. <i>Planta Medica</i> 56(3): 254-258.
AntiHIV IC35=200 ug/ml	
Antiacetylcholinesterase	
Antiaflatoxin IC50=12 uM	
Antiaflatoxin IC50=3.37 ppm	
Antiaggregant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antialzheimeran	
Antiamnesic	
Antiamyloid-Beta	
Antibacterial MIC=250-500 ug/ml	Planta Medica, 57: A43, 1991.
Anticancer	
Antiescherichic	
Antiestrogenic	
Antifibrotic	
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiperistaltic	Economic & Medicinal Plant Research, 5: 197.
Antiflammatory 20 ppm	
Antileukemic IC50=>10 ug/ml	Life Sciences 55: 1061.
Antimutagenic ID50=50-100 nM	Maga, J.A. Contribution of Phenolic Compounds to Smoke Flavor. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.13.
Antioxidant 7 x quercetin	
Antiperistaltic	
Antiperoxidative	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiradicular 7 x quercetin	
Antisindhis IC50=15 ug/ml	
Antispasmodic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antitumor	
Antitumor-Promoter	
Antiulcer	Fitoterapia No.5-1990.
Antiviral IC50=15 ug/ml	
Aphidifuge	
Aromatase-Inhibitor IC45=1 uM/l	Journal of Medicinal Food 2: 235.1999.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Choleretic	
Cytochrome-P450-Inhibitor	Pizzorno, J. 1998. Total Wellness. Prima Health, a division of Prima.
Decarboxylase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Embryotoxic	
Estrogenic EC50=0.1-25 uM/l	
Fungicide 2.5 mM	
Fungistat	Weidenborner, M., Hindorf, H., Jha, H.C., and Tsotsonos, P. 1989. Antifungal Activity of Flavonoids Against Storage Fungi of the Genus Aspergillus. Phytochemistry. 29(4): 1103-1105.
Hepatoprotective IC50=12 uM	
Hepatoprotective IC50=3.37 ppm	
Neuroprotective	
P450-Inhibitor	
Pesticide	
Serotonin-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
TNF-alpha-Inhibitor IC50=14.41 uM	
Teratogenic	
Topoisomerase-I-Inhibitor	Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. Toxicol Ind Health, 14: 223-237.
Uterotrophic EC50=0.1-25 uM/l	Journal of Medicinal Food 2: 227.1999.
cAMP- Phosphodiesterase-Inhibitor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

NEROLIDOL	Plant	--	80.0	0.61	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
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Activities (11)

Aldose-Reductase-Inhibitor	
Allergenic	
Antiacne	
Antibacterial MIC=25-200 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.
Anticariogenic MIC=25-200 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.
Antifeedant 1 mM (diet)	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Antistreptococcic	
FLavor FEMA 1-10	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	

NIACIN	Plant	--	54.0	-0.32	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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Activities (39)

Allergenic	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
AntiLyme 50 mg/day	
AntiMeniere's	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
AntiRaynaud's 1,500-4,000 mg/day	
Antiacrodynic	
Antiallergic 50 mg/2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antialzheimeran	
Antiambyopic	
Antiangular	
Anticataract	
Antichilblain	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antidementia	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidermatitic	
Antidiabetic	
Antidysphagic	
Antiepileptic 3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antihangover 50 mg	
Antihistaminic 50 mg 2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antihyperactivity 1.5-6 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiinsomnic 1 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antineuragic	
Antiparkinsonian 100 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antipellagric	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiscotomic	
Antispasmodic 100 mg 2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antivertigo	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Circulotonic	
Fibrinolytic	
Hepatoprotective	
Hepatotoxic	
Hypocholesterolemic 50-100 mg 3x/day	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Hypoglycemic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Hypolipidemic	
Sedative	
Serotonergic	
Vasodilator	Martindale's 29th

NIACIN

Leaf 9.0 54.0 -0.53 *

Activities (39)

Allergenic	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
AntiLyme 50 mg/day	
AntiMeniere's	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
AntiRaynaud's 1,500-4,000 mg/day	
Antiacrodynic	
Antiallergic 50 mg/2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antialzheimeran	
Antiambyopic	
Antianginal	
Anticataract	
Antichilblain	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Anticonvulsant 3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antidementia	
Antidermatitic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidiabetic	
Antidysphagic	
Antiepileptic 3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antihangover 50 mg	
Antihistaminic 50 mg 2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antihyperactivity 1.5-6 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiinsomnic 1 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antineuragic	
Antiparkinsonian 100 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antipellagric	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiscotomic	
Antispasmodic 100 mg 2x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antivertigo	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Circulotonic	
Fibrinolytic	
Hepatoprotective	
Hepatotoxic	
Hypocholesterolemic 50-100 mg 3x/day	

Hypolipidemic

Sedative

Serotonergic

Vasodilator

Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
 Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
 Martindale's 29th

OCIMENE

Essential Oil -- -- *

Activities (2)

Insecticide Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
 Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

OLEANOLIC-ACID

Plant -- 6300.0 0.67 List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities (64)

Abortifacient

AntiHIV IC50=21.8 ug/ml

AntiHIV EC50=1.7 ug/ml Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. *J. Nat. Prod.*, 61 (9): 1090-1095.

AntiPGE2 IC50=24 uM

AntiTGF-beta IC50=19-24 uM

Antiallergic

Antiarrhythmic 40 mg/kg

Antiatherosclerotic

Antibacterial MIC=625-1,250 ug/ml

Anticarcinomic Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Anticariogenic

Anticomplement IC40-50 0.01 mM/l gpg Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Anticomplement IC80-90 0.05 mM/l gpg Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Antiedemic IC36=40 mg/kg ipr rat

Antifertility

Antigingivitic MIC=625-1,250 ug/ml

Antihepatotoxic

Antihyperlipidemic

Antiinflammatory 40 mg/kg ipr Aquino, R., De Feo, V., De Simone, F., Pizza, C.*, and Cirino, G. Plant Metabolites. New Compounds And Anti-Inflammatory Activity Of Uncaria tomentosa. *Journal of Natural Products*, 54(2): 453-459, 1991.

Antiischemic 40 mg/kg

Antileukemic Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antileukotriene IC50=17 uM

Antimalarial IC50=70-89 ug/ml

Antinephritic IC50=19-24 uM

Antioxidant Balaneshru, S. and Nagarajan, B. 1992. Intervention of Adriamycin Induced Free Radical Damage. *Biochemistry International* 28(4): 735-744, 1992.

Antioxidant IC46=10 uM

Antiperiodontic MIC=625-1,250 ug/ml

Antiperoxidant IC30=200 ug/ml

Antiplaque MIC=625-1,250 ug/ml

Antiplasmoidal IC50=70-89 ug/ml

Antisarcomic

Antiseptic MIC=625-1,250 ug/ml

Antitumor

Antitumor (Breast) Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antitumor (Colon) Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antitumor (Kidney) Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antitumor (Lung) Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antitumor (Pancreas) Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antiulcer >carbenoxolone

Antiviral IC50=21.8 ug/ml	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomicic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.
Aromatase-Inhibitor	
Beta-Blocker	
Beta-Glucuronidase-Inhibitor ~100 mg/kg	
COX-2-Inhibitor IC50=295 uM/	
COX-2-Inhibitor	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from <i>Plantago major</i> , a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective 40 mg/kg	
Cardiotonic	
Cyclooxygenase-Inhibitor	
Diuretic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Elastase-Inhibitor IC50=~15 uM	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 211.
Hypolipemic	
Hypotensive	
Immunomodulator	
Leucocytogenic	
NF-kB-Inhibitor	
Phagocytotic	
Piscicide	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Prostaglandin-Synthesis-Inhibitor igs mus	
Sedative	
Uterotonic	
Vasopressor	

OLEIC-ACID	Seed	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
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Activities (18)

5-Alpha-Reductase-Inhibitor	
Allergenic	
Alpha-Reductase-Inhibitor	
Anemiagenic	
Antialopecic	
Antiandrogenic	
Antiinflammatory IC50=21 uM	
Antileukotriene-D4 IC50=21 uM	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic 5 ml/man	
Dermatitigenic	
FLavor FEMA 1-30	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Merck 11th Edition
Percutaneostimulant	Seki, T., Toeda, C., Kawaguchi, T., Junii, K., Sugabayashi, K., and Morimoto, Y. 1990. Enhanced Transdermal Delivery of Zidovudine in Rats and Human Skin. <i>Chem. Pharm. Bull.</i> 38(11): 3086-3089, 1990.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Propecic	

OLEIC-ACID	Plant	4700.0	5076.0	0.11	USDA's Ag Handbook 8 and sequelae)
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Activities (18)

5-Alpha-Reductase-Inhibitor	
Allergenic	
Alpha-Reductase-Inhibitor	
Anemiagenic	
Antialopecic	
Antiandrogenic	
Antiinflammatory IC50=21 uM	

Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic 5 ml/man	
Dermatitigenic	
FLavor FEMA 1-30	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press, Boca Raton, FL. 233 pp.)
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Merck 11th Edition
Percutaneostimulant	Seki, T., Toeda, C., Kawaguchi, T., Juni, K., Sugibayashi, K., and Morimoto, Y. 1990. Enhanced Transdermal Delivery of Zidovudine in Rats and Human Skin. <i>Chem. Pharm. Bull.</i> 38(11): 3086-3089, 1990.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Propecic	

P-COUMARIC-ACID

Leaf -- 420.0 -0.24 *

Activities (25)

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.
Allelopathic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antibacterial	Pharmazie, 46: 156, 1991.
Anticlastogen	
Antifertility	
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antileukemic IC50=25-56 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med.</i> 31(1):37-46.
Antinitrosaminic	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.
Antioxidant IC24=30 ppm	
Antioxidant 1/3 BHA	
Antiperoxidant IC50=>100 uM	Planta Medica, 57: A54, 1991.
Antiseptic	
Antispasmodic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antitumor	
Cancer-Preventive	
Chemopreventive	
Choleretic	
Cytotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Diaphoretic?	Lawrence Review of Natural Products, Dec-90.
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Lipoxygenase-Inhibitor IC11=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Pesticide	
Prostaglandigenic	
Prostaglandin-Synthesis-Inhibitor	
Tyrosinase-Inhibitor ID50=3,650 uM	

P-CYMEN-8-OL

Plant -- -- Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

P-CYMEN-8-OL

Essential Oil -- -- *

P-CYMENE

Essential Oil 78300.0 441300.0 3.01 *

Activities (16)

Analgesic	Martindale's 28th
Antiacetylcholinesterase IC40=1.2 mM	
Antibacillary	
Antibacterial	
Antiflu	
Antirheumatalgic	Martindale's 28th
Antiviral	
FLavor FEMA 12-250	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Herbicide IC50=50 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
Irritant	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Laxative	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances. in Keith L. H. and Walters. D.B.. eds. Compendium of Safety Data Sheets for

Pesticide					
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Trichomonicide LD100=50 ug/ml					

P-CYMENE	Plant	146.0	20800.0	4.99	*
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Activities (16)

Analgesic	Martindale's 28th				
Antiacyetylcholinesterase IC40=1.2 mM					
Antibacillary					
Antibacterial					
Antiflu					
Antirheumatalgic	Martindale's 28th				
Antiviral					
FLavor FEMA 12-250	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.				
Herbicide IC50=50 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.				
Insectifuge	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Laxative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Pesticide					
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Trichomonicide LD100=50 ug/ml					

P-HYDROXY-BENZOIC-ACID	Plant	--	--	Stitt, Paul. Why George should eat broccoli.	
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Activities (13)

Antibacterial					
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.				
Antioxidant	Phenolic Compounds in Food and Their Effects on Health, 65.				
Antiradicular					
Antisickling 10.5 ug/ml					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Fungistat EC50=607 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.				
Immunosuppressant					
Pesticide					
Phytoalexin	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.				
Prostaglandigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Secretagogue	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
Ubiquit	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				

P-HYDROXYBENZOIC-ACID-4-BETA-D-GLUCOSIDE	Leaf	--	--	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.	
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PALMITIC-ACID	Plant	17200.0	18576.0	0.13	USDA's Ag Handbook 8 and sequelae)
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Activities (13)

5-Alpha-Reductase-Inhibitor					
Antialope cic					
Antiandrogenic					
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.				
Antioxidant IC40=60					
FLavor FEMA 1	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Hemolytic	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.				
Hypercholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)				
Lubricant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.				
Pesticide					
Propecic					
Soap	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				

PHENOLS	Plant	800.0	27200.0	1.63	*
PHENYLALANINE	Plant	2410.0	2603.0	-1.11	USDA's Ag Handbook 8 and sequelae)
Activities (7)					
AntiADD 587 mg/day/orl	Martindale's 29th				
Antidepressant 50-4,000 mg/day/man					
Antiparkinsonian 200-500 mg/day/man	Martindale's 28th				
Antisickling 690 ug/ml					
Antivitilic 100 mg/kg/day/orl/man	Martindale's 29th				
Monoamine-Precursor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).				
Tremorigenic 1,600-12,600 mg/man/day	Martindale's 28th				
PHOSPHORUS	Plant	1703.0	2502.0	-0.52	USDA's Ag Handbook 8 and sequelae)
Activities (4)					
Antiosteoporotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Anxiolytic					
Immunostimulant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Osteogenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
PHOSPHORUS	Leaf	160.0	950.0	-0.74	*
Activities (4)					
Antiosteoporotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Anxiolytic					
Immunostimulant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Osteogenic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
PHYSTOSTEROLS	Plant	1520.0	1760.0	1.01	*
Activities (2)					
Antiprostatotic					
Hypocholesterolemic					
PLANTEOSE	Seed	--	--	*	
POTASSIUM	Leaf	1626.0	9680.0	-0.91	*
Activities (14)					
Angiotensin-Receptor-Blocker					
Antiarrhythmic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antidepressant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antifatigue	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antihypertensive					
Antispasmodic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antistroke					
Anxiolytic					
Beta-Blocker					
Cardioprotective 3,000-5,000 mg					
Cardiotoxic 18,000 mg/man/day					
Diuretic					
Hypotensive					
Vasodilator					
POTASSIUM	Plant	7667.0	9302.0	-0.87	USDA's Ag Handbook 8 and sequelae)
Activities (14)					
Angiotensin-Receptor-Blocker					
Antiarrhythmic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antidepressant	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antifatigue	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antihypertensive					
Antispasmodic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antistroke					
Anxiolytic					

Cardioprotective 3,000-5,000 mg
 Cardiotoxic 18,000 mg/man/day
 Diuretic
 Hypotensive
 Vasodilator

PROTEIN	Leaf	16632.0	99000.0	-1.13	*
PROTEIN	Plant	--	99000.0	-0.61	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
PROTOCATECHUIC-ACID-4-BETA-D-GLUCOSIDE	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
RESIN	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
RIBOFLAVIN	Plant	4.0	53.0	2.9	*

Activities (15)

AntiLyme 50 mg/day	
Antiarabiflavinotic 2-10 mg/day orl	Martindale's 28th
Anticarpal-Tunnel 50 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticataract 15 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticephalitic	
Anticervicaldysplastic 1.6-10 mg/day	
Anticheilitic	
Antidecubitic	
Antiglossitic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antikeratitic	
Antimigraine	
Antioxidant	
Antipellagric	
Antiphotophobic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

RIBOFLAVIN	Leaf	0.7	4.3	-0.16	*
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Activities (15)

AntiLyme 50 mg/day	
Antiarabiflavinotic 2-10 mg/day orl	Martindale's 28th
Anticarpal-Tunnel 50 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticataract 15 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticephalitic	
Anticervicaldysplastic 1.6-10 mg/day	
Anticheilitic	
Antidecubitic	
Antiglossitic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antikeratitic	
Antimigraine	
Antioxidant	
Antipellagric	
Antiphotophobic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

ROSMARINIC-ACID	Inflorescence	--	26000.0	-0.44	*
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Activities (57)

ABeta-Inhibitor	
Adenylate-Cyclase-Inhibitor	
Aldose-Reductase-Inhibitor	
AntiHIV EC50=40 ug/ml	
Antiaggregant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antiallergic	
Antialzheimeran	
Antianaphylactic 1-100 mg/kg orl	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antianaphylactic ID50=1 mg/kg ivn rat	
Antianaphylactic ID50=10	

Antiatherosclerotic IC50=0.74 uM	
Antibacterial	Planta Medica, 55: 663.
Anticoagulant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Anticomplementary 1/2 aspirin	
Anticomplementary 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antidepressant	
Antiedemic 0.316-3.16 mg/kg ims	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antigonadotropic	
Antihemolytic IC70=5-10 um/l	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antihepatotoxic	
Antiherpetic 50 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antiherpetic EC50=20 ug/ml	
Antihyperthyroid	
Antiinflammatory IC~58=1,000 uM	
Antiintegrase 10 ug/ml	
Antileukotriene	
Antilipoperoxidant	
Antimutagenic	
Antinephritic	
Antioxidant EC50=2.7 ug/ml	Parveen, N. 1991. Antifilarial Activity of Vitex negundo Against Setaria cervi. Fitoterapia, 62(2): 163, 1991.
Antioxidant 10 uM	
Antioxidant (LDL) IC50=0.74 uM	
Antiplaque	
Antiproliferant	
Antiprostaglandin 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiproteolytic IC50=0.9 mol/l	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antipulmonotic	Tyler, V.E.. 1994.
Antiradicular	
Antishock	Int. J. Immunopharmacology. Vol 10: 735, 1988.
Antithyreotropic	
Antithyroid	Jim Duke's personal files.
Antiuremic	
Antiviral EC50=40 ug/ml	
Anxiolytic	
Apoptotic	
COX-1-Inhibitor IC58=1,000 uM	
COX-2-Inhibitor IC>58=1,000 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cytotoxic TC50=100-150 ug/ml	
Deiodinase-Inhibitor	Jim Duke's personal files.
Immunomodulator	
Immunostimulant	
Lipoxygenase-Inhibitor	
Neuroprotective	
Pesticide	
Radioprotective	

ROSMARINIC-ACID Shoot 5000.0 13500.0 -0.22 *

Activities (57)

ABeta-Inhibitor	
Adenylate-Cyclase-Inhibitor	
Aldose-Reductase-Inhibitor	
AntiHIV EC50=40 ug/ml	
Antiaggregant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antiallergic	
Antialzheimeran	
Antianaphylactic 1-100 mg/kg orl	Int. J. Immunopharmacology. Vol 10: 729, 1988.

mg/kg ivn rat	
Antianaphylactic ID50=10 mg/kg ims rat	
Antiatherosclerotic IC50=0.74 uM	
Antibacterial	Planta Medica, 55: 663.
Anticoagulant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Anticomplementary 1/2 aspirin	
Anticomplementary 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antidepressant	
Antiedemic 0.316-3.16 mg/kg ims	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antigonadotropic	
Antihemolytic IC70=5-10 um/l	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antihepatotoxic	
Antiherpetic 50 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antiherpetic EC50=20 ug/ml	
Antihyperthyroid	
Antiinflammatory IC~58=1,000 uM	
Antiintegrase 10 ug/ml	
Antileukotriene	
Antilipoperoxidant	
Antimutagenic	
Antinephritic	
Antioxidant EC50=2.7 ug/ml	Parveen, N. 1991. Antifilarial Activity of Vitex negundo Against Setaria cervi. Fitoterapia, 62(2): 163, 1991.
Antioxidant 10 uM	
Antioxidant (LDL) IC50=0.74 uM	
Antiplaque	
Antiproliferant	
Antiprostaglandin 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiproteolytic IC50=0.9 mol/l	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antipulmonotic	Tyler, V.E.. 1994.
Antiradicular	
Antishock	Int. J. Immunopharmacology. Vol 10: 735, 1988.
Antithyrotropic	
Antithyroid	Jim Duke's personal files.
Antiuremic	
Antiviral EC50=40 ug/ml	
Anxiolytic	
Apoptotic	
COX-1-Inhibitor IC58=1,000 uM	
COX-2-Inhibitor IC>58=1,000 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cytotoxic TC50=100-150 ug/ml	
Deiodinase-Inhibitor	Jim Duke's personal files.
Immunomodulator	
Immunostimulant	
Lipoxygenase-Inhibitor	
Neuroprotective	
Pesticide	
Radioprotective	

ROSMARINIC-ACID Plant -- 26000.0 -0.14 Fitoterapia No.62: 166.

Activities (57)

ABeta-Inhibitor

Adenylate-Cyclase-Inhibitor

Aldose-Reductase-Inhibitor

AntiHIV EC50=40 ug/ml

Antiaggregant

Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Antiallergic

Antianaphylactic 1-100 mg/kg orl	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antianaphylactic ID50=1 mg/kg ivn rat	
Antianaphylactic ID50=10 mg/kg ims rat	
Antiatherosclerotic IC50=0.74 uM	
Antibacterial	Planta Medica, 55: 663.
Anticoagulant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Anticomplementary 1/2 aspirin	
Anticomplementary 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antidepressant	
Antiedemic 0.316-3.16 mg/kg ims	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antigonadotropic	
Antihemolytic IC70=5-10 um/l	Int. J. Immunopharmacology. Vol 10: 729, 1988.
Antihepatotoxic	
Antiherpetic 50 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antiherpetic EC50=20 ug/ml	
Antihyperthyroid	
Antiinflammatory IC~58=1,000 uM	
Antiintegrase 10 ug/ml	
Antileukotriene	
Antilipoperoxidant	
Antimutagenic	
Antinephritic	
Antioxidant EC50=2.7 ug/ml	Parveen, N. 1991. Antifilarial Activity of Vitex negundo Against Setaria cervi. Fitoterapia, 62(2): 163, 1991.
Antioxidant 10 uM	
Antioxidant (LDL) IC50=0.74 uM	
Antiplaque	
Antiproliferant	
Antiprostaglandin 20 mg/kg ivn	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiproteolytic IC50=0.9 mol/l	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Antipulmonotic	Tyler, V.E.. 1994.
Antiradicular	
Antishock	Int. J. Immunopharmacology. Vol 10: 735, 1988.
Antithyreotropic	
Antithyroid	Jim Duke's personal files.
Antiuremic	
Antiviral EC50=40 ug/ml	
Anxiolytic	
Apoptotic	
COX-1-Inhibitor IC58=1,000 uM	
COX-2-Inhibitor IC>58=1,000 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cytotoxic TC50=100-150 ug/ml	
Deiodinase-Inhibitor	Jim Duke's personal files.
Immunomodulator	
Immunostimulant	
Lipoxygenase-Inhibitor	
Neuroprotective	
Pesticide	
Radioprotective	

SALICYLATES Leaf 180.0 1830.0 3.41 J. Amer. Diet. Ass. 85{8}:950.

Activities (7)

Antiaggregant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiinflammatory	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antipyretic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiuricosuric	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Hypoglycemic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Uricosuric	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.

SALICYLIC-ACID-2-BETA-D-GLUCOSIDE	Leaf	--	--	*
SAPONINS	Plant	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.

Activities (5)

Antihepatomict
Antimutagenic
Antitumor (Lung)
Antitumor (Ovary)
Immunomodulator

SCLAREOL	Essential Oil	--	--	*
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Activities (5)

Allelopathic Kouzi, S.A., and McChesney*, J.D. Microbial Models Of Mammalian Metabolism: Fungal Metabolism Of The Diterpene Scclareol By Cunninghamella Species. Journal of Natural Products, 54(2): 483-490, 1991.
 Antibacterial Kouzi, S.A., and McChesney*, J.D. Microbial Models Of Mammalian Metabolism: Fungal Metabolism Of The Diterpene Scclareol By Cunninghamella Species. Journal of Natural Products, 54(2): 483-490, 1991.
 Fungicide Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, *Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology*, v. 4, Oryx Press, Phoenix, 1989, 267pp.
 Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
 Pesticide

SELENIUM	Leaf	--	16.0	0.85	Pedersen, M. 1987. <i>Nutritional Herbology</i> . Pederson Publishing, Bountiful, Utah. 377 pp.
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Activities (60)

AP-1-Inhibitor 2-50 uM
 Analgesic 200 ug/day Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.
 Anorexic Cooper-Driver, G. A., Chemical substances in plants toxic to animals, pp. 213-47 in Rechcigl, M., Jr., ed. *CRC Handbook of Naturally Occurring Food Toxicants*, CRC Press, Boca Raton, 1983, 339 pp.
 AntiHIV
 AntiNF-kB
 Antiacne 200 ug/day Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.
 Antiaggregant Pizzorno, J.E. and Murray, M.T. 1985. *A Textbook of Natural Medicine*. John Bastyr College Publications, Seattle, Washington (Looseleaf).
 Antiangiogenic 2 uM
 Antiangiogenic 230 ug/kg orl rat
 Antiarthritic
 Antiasthmatic
 Antiatherosclerotic
 Anticataract 400 ug/day
 Anticirrhotic Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.
 Anticlimacteric 200 ug/day
 Anticorony 200 ug/day
 Antidandruff Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.
 Antidepressant 200 ug/day
 Antidote (Mercury) Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.
 Antifibrotic 400 ug
 Antigout 200 ug
 Antikeshan Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.
 Antileukemic 1.6 mg/kg ipr mus
 Antileukotriene Pizzorno, J.E. and Murray, M.T. 1985. *A Textbook of Natural Medicine*. John Bastyr College Publications, Seattle, Washington (Looseleaf).
 Antimaculitic
 Antimelanomic 480 ug/kg
 Antimenopausal 200 ug/day
 Antimetastatic 480 ug/kg
 Antimyalgic 200 ug/day Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.
 Antiosteoarthritic
 Antioxidant 100-200 (-400) ug/man/day
 Antiparkinsonian 200-400 ug/day
 Antiproliferant 2 uM

ug/man/day	RESISTANCE. JOHN WILEY & SONS, NEW YORK. 272 pp. \$24.95
Antirheumatic	
Antisyndrome-X 100-200 (-400) ug/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antitumor 100-200 (-400) ug/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antitumor (Breast) 333.6 ug/day	
Antitumor (Breast) 0.8 mg/kg scu mus	
Antitumor (Breast) 150 ug/kg diet rat	
Antitumor (Breast) 230 ug/kg ori rat	
Antitumor (Lung) 240 ug/kg diet	
Antitumor (Prostate)	
Antitumor (brain) 38-150 ug/kg	
Antiulcerogenic	Rafatullah, S., Tariq, M., Al-Yahya, M.A., Mossa, J.S., and Ageel, A.M. 1989. Evaluation of Turmeric (<i>Curcuma longa</i>) for Gastric and Duodenal Antiulcer Activity in Rats. <i>J. of Ethnopharmacology</i> , 29: 25-34, 1990.
Anxiolytic	
Apoptotic	
Cancer-Preventive	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Cardioprotective 200 ug/day	
Depressant	Cooper-Driver, G. A., Chemical substances in plants toxic to animals, pp. 213-47 in Rechcigl, M., Jr., ed. CRC Handbook of Naturally Occurring Food Toxicants, CRC Press, Boca Raton, 1983, 339 pp.
Fungicide	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Immunomodulator	
Immunostimulant 100-200 (-400) ug/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
NF-kB-Inhibitor	
Ornithine-Decarboxylase-Inhibitor	
Pesticide	
Polyamine-Synthesis-Inhibitor	
Prostaglandin-Sparer	Fujita, T., Nakatani, E., Funashi, N., Sakuma, S., Fujimoto, Y. Potent inhibition of prostaglandin inactivation in rabbit gastric antral mucosal slices by selenium ions in-vitro. <i>J. Pharm. Pharmacol.</i> 42: 655-657, 1990.
Protein-Kinase-C-Inhibitor IC50=2-50 uM	
VEGF-Inhibitor	

SILICON	Leaf	3.4	20.2	-0.35	*
Activities (4)					
Antiarteriosclerotic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
Antionycholytic					
Antiosteoporotic					
Cardioprotective					
SODIUM	Plant	430.0	1341.0	-0.23	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Activities (1)					
Hypertensive	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
SODIUM	Leaf	250.0	1490.0	-0.38	*
Activities (1)					
Hypertensive	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.				
STIGMASTEROL	Leaf	80.0	85.0	0.08	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Activities (12)					
Antihapatotoxic					
Antiinflammatory	Lawrence Review of Natural Products, 1995				
Antinociceptive					
Antiphidic 2.3 mg ipr mus	Economic & Medicinal Plant Research, 5: 363.				
Antioxidant IC33=10 uM					
Antiviral	Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in <i>Artemisia annua</i> . <i>Plant Science</i> , 75: 161-165, 1991.				
Artemicide LC50=110 ppm	Jung, J.H., Pummangura, S., Chaichantipyuth, C., Patarapanich, C., and McLaughlin, J.L. 1989. Bioactive Constituents of <i>Melodorum fruticosum</i> . <i>Phytochemistry</i> . 29(5): 1667-1670. 1990.				

Estrogenic

Hypocholesterolemic Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.

Ovulant

Sedative

SYRINGIC-ACID-4-BETA-D-GLUCOSIDE	Leaf	--	--	*	
SYRINGOYL-GLUCOSE	Leaf	--	--	*	
TANNIN	Plant	80000.0	100000.0	0.24	*

Activities (35)

Anthelmintic

AntiHIV

Antibacterial

Anticancer

Anticariogenic

Antidiarrheic

Antidysenteric

Antihepatotoxic

Antihypertensive

Antilipolytic

Antimutagenic

Antinephritic

Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. *Chem. Pharm. Bull.* 38(4): 1049-1052, 1990.

Antiphidic

Economic & Medicinal Plant Research, 5: 363.

Antioxidant
IC50=1.44 ug/ml

Antioxidant 1/3

quercetin

Antiradicular 500
mg/kg/day orl mus

Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. *Chem. Pharm. Bull.* 38(4): 1049-1052, 1990.

Antiradicular 1/3
quercetin

Antirenitic

Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. *Chem. Pharm. Bull.* 38(4): 1049-1052, 1990.

Antitumor

Antitumor-Promoter

Antiulcer

Antiviral

Cancer-Preventive *HerbalGram No. 22 - Spring 1990, page 14.*

Carcinogenic

Chelator

Cyclooxygenase-
Inhibitor

Glucosyl-
Transferase-Inhibitor

Hepatoprotective

Immunosuppressant

Lipoxygenase-
Inhibitor

MAO-Inhibitor

Ornithine-
Decarboxylase-
Inhibitor

Pesticide

Psychotropic

Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. *Chem. Pharm. Bull.* 38(4): 1049-1052, 1990.

Xanthine-Oxidase-
Inhibitor

TANNIN	Leaf	16800.0	100000.0	-0.13	*
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Activities (35)

Anthelmintic

AntiHIV

Antibacterial

Anticancer

Anticariogenic

Antidiarrheic

Antidysenteric

Antihepatotoxic

Antihypertensive

Antimutagenic	
Antinephritic	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. <i>Chem. Pharm. Bull.</i> 38(4): 1049-1052, 1990.
Antiophidic	Economic & Medicinal Plant Research, 5: 363.
Antioxidant IC50=1.44 ug/ml	
Antioxidant 1/3 quercetin	
Antiradicular 500 mg/kg/day orl mus	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. <i>Chem. Pharm. Bull.</i> 38(4): 1049-1052, 1990.
Antiradicular 1/3 quercetin	
Antirenitic	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. <i>Chem. Pharm. Bull.</i> 38(4): 1049-1052, 1990.
Antitumor	
Antitumor-Promoter	
Antiulcer	
Antiviral	
Cancer-Preventive	HerbalGram No. 22 - Spring 1990, page 14.
Carcinogenic	
Chelator	
Cyclooxygenase- Inhibitor	
Glucosyl- Transferase-Inhibitor	
Hepatoprotective	
Immunosuppressant	
Lipoxygenase- Inhibitor	
MAO-Inhibitor	
Ornithine- Decarboxylase- Inhibitor	
Pesticide	
Psychotropic	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. <i>Chem. Pharm. Bull.</i> 38(4): 1049-1052, 1990.
Xanthine-Oxidase- Inhibitor	

TERPINEN-4-OL

Essential Oil -- -- *

Activities (23)

Allelopathic	Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY, NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.
Antiacetylcholinesterase IC21-24=1.2 mM	
Antiacne	
Antiallergic	
Antiasthmatic	Chin. J. Tuber. Respir. Dis., 4:203, 1982.
Antibacterial	
Antioxidant	
Antiseptic	Flav. & Frag. J. 9: 129.
Antispasmodic	
Antitussive	Chin. J. Tuber. Respir. Dis.
Antiulcer	
Bacteriostatic	Chin. J. Tuber. Respir. Dis.
Diuretic 0.1 ml/rat	
Fungicide	
Herbicide IC50=200 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v.4, Oryx Press, Phoenix, 1989, 267pp.
Herbicide IC50=22 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge	
Irritant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Pesticide	
Renoirritant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Spermicide ED100=0.015	
Vulnerary	Lawrence Review of Natural Products, Jan-91.

THIAMIN

Plant 5.0 6.0 -0.14 CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Analgesic 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
AntiLyme 50 mg	
Antialcoholic 50-100 mg/day	
Antialzheimeran 100-3,000 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antianorectic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antibackache 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiberiberi	
Anticanker	
Anticardiospasmic	
Anticataract	
Anticolitic	
Antidecubitic	
Antideliriant	
Antidementia	
Antidyspeptic	
Antiecephalopathic	Martindale's 29th
Antifatigue	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antigastric	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihangover 50 mg	
Antiheartburn	
Antiherpetic	
Antimigraine	
Antimyocarditic	
Antineuragic 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antineurasthenic	
Antineuritic	
Antineuropathic 50 mg	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antipoliomyelic	
Insectifuge 75-150 mg/man/day	Martindale's 28th
Neuroprotective	
Pesticide	

THIAMINE	Leaf	1.0	5.5	0.07	*
THREONINE	Plant	2520.0	2722.0	-1.03	USDA's Ag Handbook 8 and sequelae)

Activities (4)

Antioxidant?	
Antiulcer	Martindale's 29th
Essential	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
FLavor FEMA 1,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

THUJAN-4-OL	Plant	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
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THYMOL

THYMOL	Shoot	--	--	*
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Activities (71)

Acaricide	
Allergenic	
Analgesic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ancylostomicide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anesthetic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ankylostomacide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anthelmintic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antiacne	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Antiaggregant IC50=0.75	Tramil, 42: 511.
Antialzheimeran?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiarthritic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antiatherosclerotic IC50=4 uM	
Antibacterial MIC=50-400 ug/ml	

Madaus.

Anticariogenic MIC=200-400 ug/ml	
Anticholinesterase	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antihalitotic	American Health, 12(4): 17, 1993.
Antiherpetic	Martindale's 28th
Antiinflammatory (=indomethacin)	
Antileptic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antimelanomic IC50=120 uM/l	
Antineuritic	
Antioxidant 100 ppm	Martindale's 28th
Antioxidant (LDL) IC50=4 uM	
Antiperiodontic MIC=50-200 ug/ml	
Antiplaque MIC=39-625 ug/ml	Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I. Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria. Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21
Antiradicular EC=60	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JE05: 153-8.
Antirheumatic	Williamson, E. M. and Evans, F. J. Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antisalmonella	
Antiseptic 20 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Antispasmodic	
Antistaphylococcc	
Antistreptococcc MIC=200-400 ug/ml	
Antitrichinosic 5%	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antitussive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Ataxigenic	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Candidicide 100 ug/ml (>Nystatin)	
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.
Counterirritant	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Culicide LC50=36-49 mg/l	
Cyclooxygenase-Inhibitor (=indomethacin)	
Dentifrice	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Deodorant	Martindale's 28th
Dermatitigenic	
Enterorelaxant	J. Aromatherapy 4: 22.
Enterotoxic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Expectorant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 2-100	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Merck 11th Edition
Gastroirritant	Martindale's 29th
Gram(+)icide MIC=200-400 ug/ml	
Gram(-)icide MIC=50-200 ug/ml	
Insecticide LC50=36-49 mg/l	
Insecticide 0.22 uM/fly	
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Larvicide 10 ppm	Berenbaum, M. R., The natives knew, Chemtech, (May), 1990, 275-279.
Larvicide 58 ppm	
Larvicide LC50=36-49 mg/l	
Molluscicide	
Myorelaxant	J. Aromatherapy 4: 22.
Nematicide MLC=0.1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Sprout-Inhibitor	Duke, J.A.. Personal Communication.
Tracheorelaxant	
Trichomonicide LD100=25 ug/ml	
Urinary-Antiseptic	Williamson, F. M. and Evans, F. J. Potter's New Cyclopaedia of Botanical Drugs and Preparations. Revised Ed. Saffron Walden, the C. W. Daniel

Varroacide
Vermicide

Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938
Madaus.

THYMOL

Plant 15.0 24100.0 2.4 *

Activities (71)

Acaricide	
Allergenic	
Analgesic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ancylostomicide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anesthetic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ankylostomacide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anthelmintic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antiacne	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Antiaggregant IC50=0.75	Tramil, 42: 511.
Antialzheimeran?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiarthritic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antiatherosclerotic IC50=4 uM	
Antibacterial MIC=50-400 ug/ml	
Antibronchitic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anticariogenic MIC=200- 400 ug/ml	
Anticholinesterase	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antihalitosis	American Health, 12(4): 17, 1993.
Antiherpetic	Martindale's 28th
Antiinflammatory (=indomethacin)	
Antileptic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antimelanomic IC50=120 uM/l	
Antineuritic	
Antioxidant 100 ppm	Martindale's 28th
Antioxidant (LDL) IC50=4 uM	
Antiperiodontic MIC=50- 200 ug/ml	
Antiplaque MIC=39-625 ug/ml	Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I., Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria, Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21
Antiradicular EC=60	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEOS: 153-8.
Antirheumatic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antisalmonella	
Antiseptic 20 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Antispasmodic	
Antistaphylococcal	
Antistreptococcal MIC=200-400 ug/ml	
Antitrichinosic 5%	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antitussive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Ataxigenic	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Candidicide 100 ug/ml <td></td>	
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.
Counterirritant	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Culicide LC50=36-49 mg/l	
Cyclooxygenase-Inhibitor (=indomethacin)	
Dentifrice	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Deodorant	Martindale's 28th
Dermatitigenic	
Enterorelaxant	J. Aromatherapy 4: 22.
Enterotoxic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft mbH Stuttgart. 393 pp.
Expectorant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 2-100	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Gastroirritant	Martindale's 29th
Gram(+)icide MIC=200-400 ug/ml	
Gram(-)icide MIC=50-200 ug/ml	
Insecticide LC50=36-49 mg/l	
Insecticide 0.22 uM/fly	
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Larvicide 10 ppm	Berenbaum, M. R., The natives knew, Chemtech, (May), 1990, 275-279.
Larvicide 58 ppm	
Larvicide LC50=36-49 mg/l	
Molluscicide	
Myorelaxant	J. Aromatherapy 4: 22.
Nematicide MLC=0.1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Sedative	Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Sprout-Inhibitor	Duke, J.A.. Personal Communication.
Tracheorelaxant	
Trichomonicide LD100=25 ug/ml	
Urinary-Antiseptic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Varroacide	
Vermicide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.

THYMOL	Essential Oil	231000.0	600500.0	1.25	*
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Activities (71)

Acaricide	
Allergenic	
Analgesic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ancylostomicide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anesthetic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Ankylostomacide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anthelmintic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antiacne	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Antiaggregant IC50=0.75	Tramil, 42: 511.
Antialzheimeran?	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antiarthritic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antiatherosclerotic IC50=4 uM	
Antibacterial MIC=50-400 ug/ml	
Antibronchitic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Anticariogenic MIC=200-400 ug/ml	
Anticholinesterase	L. Gracza (1985) as cited by Buchbauer re antiacetylcholinesterase.
Antihalitosis	American Health, 12(4): 17, 1993.
Antiherpetic	Martindale's 28th
Antiinflammatory (=indomethacin)	
Antileptic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antimelanomic IC50=120 uM/l	
Antineuritic	
Antioxidant 100 ppm	Martindale's 28th
Antioxidant (LDL) IC50=4 uM	
Antiperiodontic MIC=50-200 ug/ml	
Antiplaque MIC=39-625 ug/ml	Osawa, K., Matsumoto, T., Maruyama, T., Takiguchi, T., Okuda, K., and Takazoe, I., Studies of the antibacterial activity of plant extracts and their constituents against periodontopathic bacteria, Bull Tokyo Dent. Coll., 31 (1), 1990, 17-21
Antiradicular EC=60	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JE05: 153-8.

Antisalmonella	
Antiseptic 20 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Antispasmodic	
Antistaphylococcal	
Antistreptococcal MIC=200-400 ug/ml	
Antitrichinosic 5%	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antitussive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Ataxigenic	Zbovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Candidicide 100 ug/ml (>Nystatin)	
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. <i>J. Pharm. Pharmacol.</i> 46: 14-18, 1994.
Counterirritant	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Culicide LC50=36-49 mg/l	
Cyclooxygenase-Inhibitor (=indomethacin)	
Dentifrice	Aloe Research Council - Duke write up of non-peer reviewd book by Coats and draft by Henry
Deodorant	Martindale's 28th
Dermatitogenic	
Enterorelaxant	J. Aromatherapy 4: 22.
Enterotoxic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft mbH Stuttgart. 393 pp.
Expectorant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 2-100	Aloe Research Council - Duke write up of non-peer reviewd book by Coats and draft by Henry
Fungicide	Merck 11th Edition
Gastroirritant	Martindale's 29th
Gram(+)icide MIC=200-400 ug/ml	
Gram(-)icide MIC=50-200 ug/ml	
Insecticide LC50=36-49 mg/l	
Insecticide 0.22 uM/fly	
Insectifuge	
Irritant	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Larvicide 10 ppm	Berenbaum, M. R., The natives knew, Chemtech, (May), 1990, 275-279.
Larvicide 58 ppm	
Larvicide LC50=36-49 mg/l	
Molluscicide	
Myorelaxant	J. Aromatherapy 4: 22.
Nematicide MLC=0.1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Aloe Research Council - Duke write up of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Sedative	Zbovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Sprout-Inhibitor	Duke, J.A.. Personal Communication.
Tracheorelaxant	
Trichomonicide LD100=25 ug/ml	
Urinary-Antiseptic	Williamson, E. M. and Evans, F.J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Varroacide	
Vermicide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.

THYMOL-METHYL-ETHER	Plant	1.0	10000.0	2.23	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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THYMONIN

Leaf	--	--	*
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Activities (3)

Aldose-Reductase-Inhibitor 10 uM	Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids. <i>Biochem Pharmacol.</i> 31(23): 3807-3822.
Antispasmodic	Fitoterapia No.2-1986.
Myocontractant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

THYMONIN

Plant	--	--	*
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Activities (3)

Aldose-Reductase-	Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids.
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Antispasmodic	Fitoterapia No.2-1986.
Myocontractant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
THYMUNIC-ACID	Plant -- -- ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
THYMUSAPONIN	Plant -- -- ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
THYMYL-ACETATE	Plant -- -- Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Activities (6)

Antiseptic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Carminative	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Counterirritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	
Rubefacient	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

TIN	Leaf	3.0	17.0	0.17	*
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Activities (4)

Antiacne	
Antibacterial	
Pesticide	
Taenicide	Martindale's 28th

TRANS-4-THUJANOL	Plant	--	--	*
TRYPTOPHAN	Plant	1860.0	2009.0	-0.94

Activities (29)

Analgesic 750 mg/4x/day/orl/man	Martindale's 29th
Antianxiety 500-1,000 mg/meal	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antidementia 3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antidepressant 1-3 g/3x/day/orl/man	Martindale's 29th
Antidyskinetic 2-8 g/orl/wmn/day	Martindale's 29th
Antihypertensive	J. Agri. & Food Chemistry, 36: 1079.
Antiinsomniac 1-3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antimanic 12 g/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antimenopausal 6 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antimigraine 500 mg/man/4x/day	Martindale's 29th
Antioxidant 125 ug/ml	
Antiparkinsonian 2 g 3 x/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiphenylketonuric	Martindale's 29th
Antiprostaglandin 250 pg/ml	
Antipsychotic 12 g/man/day	Martindale's 29th
Antirheumatic	Martindale's 29th
Antiscoliotic	
Carcinogenic	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Essential	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hypnotic	Martindale's 29th
Hypoglycemic	Economic & Medicinal Plant Research, 6: 157.
Hypotensive 3 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Insulinase-Inhibitor	Economic & Medicinal Plant Research, 6: 157.
Insulinotonic	J. Agri. & Food Chemistry, 36: 1079.
Monoamine-Precursor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Prolactinogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Sedative 3-10 g/man/day	
Serotonergic 6-12 g/day/orl/man	Martindale's 28th
Tumor-Promoter	J. Agri. & Food Chemistry, 36: 1079.

TYROSINE	Plant	2410.0	2603.0	-0.8	USDA's Ag Handbook 8 and sequelae)
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Antidepressant?	
Antinecephalopathic	Martindale's 29th
Antiparkinsonian 100 mg/kg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiphencyketonuric	Martindale's 29th
Antiulcer 256 mg scu	Borchard, R. E., Barnes, C. D., and Eltherton, L. G. 1991. Drug Dosage in Laboratory Animals: A Handbook. (3rd Ed.) The Telford Press, Inc., P. O. Box 287, Caldwell NJ 07006.
Antiulcer 400 mg/kg ipr rat	Borchard, R. E., Barnes, C. D., and Eltherton, L. G. 1991. Drug Dosage in Laboratory Animals: A Handbook. (3rd Ed.) The Telford Press, Inc., P. O. Box 287, Caldwell NJ 07006.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Monoamine-Precursor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

URSOLIC-ACID	Plant	15000.0	18800.0	0.1	*
Activities (89)					
Analgesic					
AntiEBV	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
AntiHIV EC50=2.0 ug/ml	Kashiwada, Y., et. al 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.				
AntiHIV IC50=6.5 ug/ml	Kashiwada, Y., et. al 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.				
AntiHIV IC85=18 ug/ml					
AntiHIV 6.7 uM					
AntiTGF-beta IC50=6-7.5 uM					
Antialzheimeran	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.				
Antiarrhythmic					
Antiarthritic	Planta Medica, 57: A56, 1991.				
Antibacterial					
Anticancer	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.				
Anticancer (Colon)	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.				
Anticarcinomic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med.</i> , 31(1):37-46.				
Anticariogenic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Anticholestatic 28-100 mg/kg orl	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. <i>Phytotherapy Research</i> 6: 74-79, 1992.				
Anticomplement IC100 0.1 mM/l gpg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.				
Anticomplement IC80-90 0.05 mM/l gpg	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.				
Antidiabetic	Chemical Constituents of Oriental Herbs (3 diff. books)				
Antiedemic					
Antiescherichic					
Antifibrosarcomic IC80=10 uM					
Antihepatotoxic 5-20 mg/kg ipr	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. <i>Phytotherapy Research</i> 6: 74-79, 1992.				
Antihistaminic	Tsuruga, T., Chun, Y.-T., Ebizuka, Y., and Sankawa, U. 1991. Biologically Active Constituents of Melaleuca leucadendron: Inhibitors of Induced Histamine Release from Rat Mast Cells. <i>Chem. Pharm. Bull.</i> 39(12): 3276-3278, 1991.				
Antihyperlipidemic					
Antiinflammatory 1/3 indomethacin					
Antiinflammatory IC24=500 mg/kg					
Antileishmanic ED50=20 uM					
Antileukeemic IC50=2.5-17.8 ug/ml					
Antilymphominc	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.				
Antimalarial IC50=28-37 ug/ml					
Antimetastatic IC80=10 uM					
Antimutagenic IC57-80=80 m ^g /kg					
Antinephritic IC50=6-7.5 uM					
Antiobesity?	Internat. J. Oriental Med. 16: 4.				
Antioxidant IC50=10 uM					
Antiperioxidant IC35=200 ug/ml					
Antiplasmodial IC50=28-37 ug/ml					
Antiproliferative IC50=15-20 uM					

Antithromboxane IC50=50 uM	
Antitrypanosomic	
Antitumor	Cancer Research, 54: 701, 1994.
Antitumor (Breast) 0.5% diet	
Antitumor (Breast) IC50=15-20 uM	
Antitumor (Cervix)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Colon)	
Antitumor (Lung)	
Antitumor (Ovary)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Stomach) IC50=15-20 uM	
Antitumor (brain)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor-Promoter	Planta Medica, 57: A56, 1991.
Antiulcer	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.
Antiviral IC85=18 ug/ml	
Aromatase-Inhibitor	
Beta-Blocker	
Beta-Glucuronidase-Inhibitor ~100 mg/kg	
CNS-Depressant	
COX-2-Inhibitor IC50=130 uM/	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Cardioprotective	
Cardiotonic	
Choleretic 5-20 mg/kg orl	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.
Cyclooxygenase-Inhibitor	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. J. Nat. Prod., 61(10): 1212-1215.
Cytotoxic 50 ppm	
Cytotoxic ED50=3.75 ug/ml	
Cytotoxic 7.2 uM	
Diuretic	
Elastase-Inhibitor IC50=~15 uM	
Hepatoprotective 1-100 ug/ml	
Hepatoprotective 10 mg/kg	
Hypoglycemic	Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.
Hypotensive	
Immunomodulator	
Leucocytogenic	
Lipoxygenase-Inhibitor IC50=0.18 mM	
MMP-9-Inhibitor IC80=10 uM	
Ornithine-Decarboxylase-Inhibitor	
Pesticide	
Piscicide	
Potassium-Sparing 3 mg/rat	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Protease-Inhibitor IC85=18 ug/ml	
Protisticide	Chemical Express, 7: 285, 1992.
Quinone-Reductase-Inducer 5 ug/ml	Lee, S. K., Song, Y., Mata-Greenwood, E., Kelloff, G. J., Steele, V. E., Pezzuto, J. M. 1999. Modulation of in vitro Biomarkers of the Carcinogenic Process by Chémopreventive Agents. Anticancer Res., 19: 35-44.
Sodium-Sparing 3 mg/rat	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
TOPO-2-Inhibitor	
Trypanocide	
Vasopressor	

VALINE Plant 5020.0 5422.0 -0.57 USDA's Ag Handbook 8 and sequelae)

Activities (3)

Antiecephalopathic
Essential

VANILLIC-ACID	Plant	--	--	Stitt, Paul. Why George should eat broccoli.	
Activities (24)					
Aldose-Reductase-Inhibitor 100 uM/l					
Allelopathic					
Anthelmintic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Antibacterial 1.5-15 mg/ml	Recio, M. C., Rios, J. L., and Villar, A. A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, <i>Phytotherapy Research</i> , 3(4), 1989, 117-125.				
Anticancer					
Antifatigue					
Antiinflammatory	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Antileukemic IC50=25-56 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.				
Antioxidant IC21=30 ppm					
Antioxidant 1/3 BHA					
Antiperoxidant IC15-65=100-200 ug/ml					
Antiradicular 7 x quercetin					
Antiseptic					
Antisickling	Planta Medica, 56(6): 681, 1990.				
Antitumor					
Antitumor-Promoter					
Ascaricide					
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Choleretic					
Fungicide					
Immunosuppressant					
Laxative	=ICMR(Indian Council of Medical Research).1976. <i>Medicinal Plants of India</i> .Vol.1.Indian Council of Med. Res,Cambridge Printing Works, New Delhi.487 pp;ICMR.1987. <i>Medicinal Plants of India</i> .Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp				
Pesticide					
Ubiquiot	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
VANILLIC-ACID-4-BETA-D-GLUCOSIDE	Leaf	--	--	*	
WATER	Leaf	--	832000.0	0.12	*
WATER	Plant	74111.0	81690.0	-2.95	USDA's Ag Handbook 8 and sequelae)
ZINC	Plant	55.0	74.0	0.22	USDA's Ag Handbook 8 and sequelae)
Activities (77)					
ACE-Inhibitor					
Analgesic					
AntiBPH 25-60 mg/day					
AntiCrohn's	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
AntiHIV					
Antiacne 135 mg/day					
Antiacrodermatitic 8-34 mg/day/orl/chd	Martindale's 29th				
Antialcoholic					
Antialope sic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
Antialzheimeran 50 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.				
Antiangiogenic					
Antianorexic	Martindale's 29th				
Antiarthritic 50 mg/3x/day/orl/man					
Anticanker 100 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.				
Anticataract 30 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.				
Anticoeliac	Martindale's 28th				
Anticold 50 mg	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
Anticolitic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
Anticorony 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reverse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95				
Antidandruff	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.				
Antidementia					
Antidiabetic 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reverse insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95				

Antidysgeuzic	
Antieczemic 150 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiencephalopathic	Martindale's 29th
Antiepileptic 100 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antifibrotic 30 mg	
Antifuruncular 45 mg/3x/day/man	Martindale's 28th
Antihangover 15 mg	
Antiherpetic? 25-60 mg/day	
Antiimpotence	Martindale's 29th
Antiinfective 50 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antiinfertility 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antinsomniac	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antileptic	Martindale's 29th
Antileukonychic	
Antilymphomictic	
Antimaculitic	
Antimetastatic	
Antineuropathic	
Antinycatalopic	
Antiobesity 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antosteoporotic	
Antiperiodontitic	
Antiplaque	Martindale's 29th
Antiprolactin	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiprostatic 50 mg/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antirheumatic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Antiseptic 50 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antispase-Tire 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antistomatitic 50 mg/man/3x/day	Martindale's 28th
Antisyndrome-X 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antitinnitic 60-120 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antitriglyceride 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Antiulcer 50 mg/3x/day/man	Martindale's 28th
Antiulcer 88 mg/rat/day/15 days	
Antiviral?	Martindale's 29th
Astringent	Martindale's 28th
Collagenic	
Copper-Antagonist	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Deodorant	Martindale's 29th
Detoxicant (Alcohol)	
Ergogenic	
Hypotensive 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Immunomodulator	
Immunostimulant	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Immunosuppressant 300 mg/day/6 wks/orl/man	Martindale's 29th
Insulinogenic 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Leptogenic 30-60 mg/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Mucogenic	Li, K.M. Effect of zinc sulphate on acetic acid-induced gastric ulceration in rats. <i>J. Pharm. Pharmacol.</i> 42: 657-659, 1990.
NF-kB-Inhibitor	
Pesticide	
Spermigenic 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Testosteronogenic 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Trichomonicide	Martindale's 29th
Vulnerary	Martindale's 28th

ZINC

Leaf

0.3

1.5

-0.52

*

Activities (77)

ACE-Inhibitor

Analgesic

AntiCrohn's	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
AntiHIV	
Antiacne 135 mg/day	
Antiacrodermatitic 8-34 mg/day/orl/chd	Martindale's 29th
Antialcoholic	
Antialopeptic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antialzheimeran 50 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiangiogenic	
Antianorexic	Martindale's 29th
Antiarthritic 50 mg/3x/day/orl/man	
Anticanker 100 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticataract 30 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Anticoeliac	Martindale's 28th
Anticold 50 mg	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Anticolitic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Anticoronal 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antidandruff	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antidementia	
Antidiabetic 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antidote (Cadmium)	Let's Live, May 1989.
Antidysgeuzic	
Antieczemic 150 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiencephalopathic	Martindale's 29th
Antiepileptic 100 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antifibrotic 30 mg	
Antifuruncular 45 mg/3x/day/man	Martindale's 28th
Antihangover 15 mg	
Antitherapeutic? 25-60 mg/day	
Antiimpotence	Martindale's 29th
Antiinfective 50 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiinfertility 60 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiinsomniac	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antileptic	Martindale's 29th
Antileukonychic	
Antilymphomic	
Antimaculitic	
Antimetastatic	
Antineuropathic	
Antinystagmalic	
Antiobesity 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antosteoporotic	
Antiperiodontic	
Antiplaque	Martindale's 29th
Antiprolactin	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiprostatic 50 mg/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antirheumatic	Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.
Antiseptic 50 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antispare-Tire 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antistomatitic 50 mg/man/3x/day	Martindale's 28th
Antisyndrome-X 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antitinitic 60-120 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antitriglyceride 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Antiulcer 50 mg/3x/day/man	Martindale's 28th
Antiulcer 88 mg/rat/day/15 days	
Antiviral?	Martindale's 29th
Astringent	Martindale's 28th
Collagenic	
Copper-Antagonist	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95
Deodorant	Martindale's 29th
Detoxicant (Alcohol)	

Hypotensive 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Immunomodulator	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Immunostimulant	Martindale's 29th
Immunosuppressant 300 mg/day/6 wks/orl/man	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Insulinogenic 30 mg/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Leptogenic 30-60 mg/man/day	Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. <i>Syndrome X - The complete nutritional program to prevent and reserve insulin resistance</i> . John Wiley & Sons, New York. 272 pp. \$24.95
Mucogenic	Li, K.M. Effect of zinc sulphate on acetic acid-induced gastric ulceration in rats. <i>J. Pharm. Pharmacol.</i> 42: 657-659, 1990.
NF-kB-Inhibitor	
Pesticide	
Spermigenic 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Testosteronogenic 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Trichomonicide	Martindale's 29th
Vulnerary	Martindale's 28th